

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

ORDER NO. VSD9908M013
D20

Service Manual

AVCPND

Digital Video Cassette Recorder

AJ-D250P

Sec.1 *Operating Instructions*

Sec.2 *Service Information*

Sec.3 *Disassembly Procedures/Maintenance &
Mechanical Parts Replacement*

Sec.4 *Electrical Adjustments*

Sec.5 *Block Diagrams*

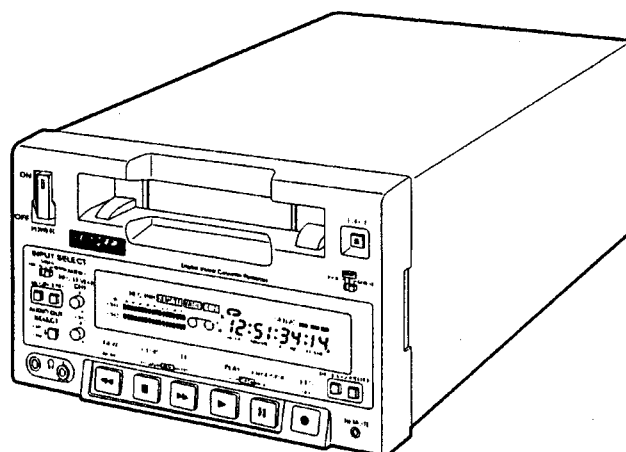
Sec.6 *Schematic Diagrams*

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Replacement Parts List*



V25289



Panasonic

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Specifications

[GENERAL]

Supply voltage: 120 V AC, 50 – 60 Hz Power consumption: 56 W

Ambient operating temperature:

41°F to 104°F (5°C to 40°C)

Ambient operating humidity:

35% to 80% (no condensation)

Weight:

14.3 lb (6.5 kg)

Dimensions (W×H×D):

8 7/16"×5 1/4"×15 7/16" (214×132×391 mm)

Recording format:

DVCPRO format

Recording tracks

Digital video/audio

Time code: recorded in sub-code area

Digital audio: 2 channels

Cue signal: 1 track

Control (CTL): 1 track

Tape speed:

33.820 mm/sec.

Recording time:

184 minutes (when an AJ-5P92LP is used *)

66 minutes (when an AJ-P66MP is used)

* For AJ-5P92LP cassette tapes, use a VTR supporting DVCPRO (25 Mbps) 184 minute tapes.

Tape used:

1/4" thin magnetic layer metal tapes

FF/REW time:

Less than 5 min. (using an AJ-5P92LP tape)

[VIDEO]

■ Digital video**Sampling frequency:**

Y: 13.5 MHz, P_B/P_R: 3.375 MHz

Quantizing:

8 bits

Error correction:

Reed-Solomon product code

■ Analog composite IN/OUT**Video band:**

Y: 30 Hz to 4.5 MHz (0 ±1 dB)

Y/C delay:

Less than 20 ns

K factor:

Less than 2%

■ Input connectors**Line input:**

BNC×1, 1.0 V_{P-P}, 75 Ω

REF VIDEO input:

BNC×1, 1.0 V_{P-P}, 75 Ω

S-VIDEO:

4P×1, Y: 1.0 V_{P-P}, 75 Ω

C: 0.286 V_{P-P}, 75 Ω (burst level)

■ Output connectors**Line output:**

BNC×1, 1.0 V_{P-P}, 75 Ω

Monitor output:

BNC×1, 1.0 V_{P-P}, 75 Ω

S-VIDEO:

4P×1, Y: 1.0 V_{P-P}, 75 Ω

C: 0.286 V_{P-P}, 75 Ω (burst level)

Specifications

[AUDIO]

■ Digital audio

Sampling frequency:

48 kHz

Quantizing:

16 bits

Frequency response:

20 Hz to 20 kHz (0 +1.0 dB, -2.0 dB)

Dynamic range:

More than 85 dB

(1 kHz, emphasis OFF, "A" weighted)

Distortion:

Less than 0.1%

(1 kHz, emphasis OFF, reference level)

Crosstalk:

Less than -80 dB (1 kHz, between 2 channels)

■ Input connectors

Line input (CH1/CH2):

PHONO×2, -8 dBV, 47 kΩ

■ Output connectors

Line output (CH1/CH2):

PHONO×4, -8 dBV, 1 kΩ

Headphones output:

M3 stereo, variable level (max. -32 dBV or more), 8 Ω

[OTHER INPUT/OUTPUT CONNECTORS]

RS-232C:

D-sub, 25 pins, RS-232C interface

Wired remote control:

M2 jack (simple remote control)

[DISPLAY TUBE]

Counter:

8 digits (CTL/TC/UB display switching, remaining tape)

Audio level meter:

18 steps

Other:

REC/REC INH, REMOTE, WIDE, consumer-use cassette insertion display, REPEAT, SERVO, channel condition, cassette insertion display

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

SAFETY PRECAUTIONS

GENERAL GUIDELINES

When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.

After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.

After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

Unplug the AC cord and connect a jumper between the two prongs on the plug.

Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1M\Omega$ and $5.2M\Omega$.

When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

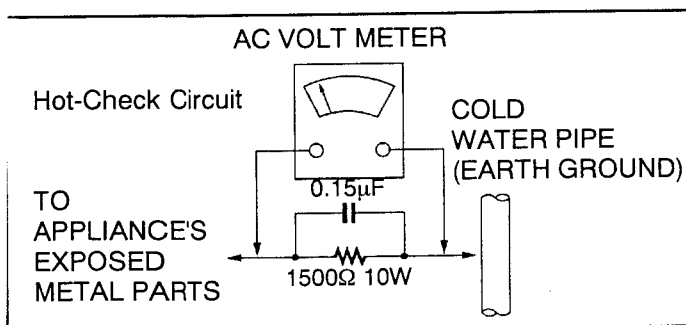


Figure 1

LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5k\Omega$, 10W resistor, in parallel with $0.15\mu F$ capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 millilamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protected material from the leads of replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

X-RADIATION

WARNING

1. The potential source of X-Radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing X-Radiation.

NOTE: It is important to use an accurate periodically calibrated high voltage meter.

3. Measure the High Voltage. The meter (electric type) reading should indicate 2.5kV, $\pm 0.15kV$. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.

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SECTION 1

OPERATING INSTRUCTIONS

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Introduction

The AJ-D250 is a digital VTR which uses 1/4" wide tapes. The incorporation of digital compression technology ensures that the deterioration in picture and sound quality suffered during dubbing will be much less than with conventional analog systems.

The model has a compact and lightweight design, enabling it to be readily carried about or easily installed in a rack.

The interactive system, which is featured for the unit's settings, enables these settings to be performed while viewing the menus on the TV monitor screen.

The model AJ-D250 comes with an RS-232C connector which makes it possible to control the editing operations and exercise remote control from a computer using the RS-232C remote control (AJ-A250 - available as an optional accessory).

Features

Compact and light

This unit is 8 7/16" (214 mm) wide, 5 1/4" (132 mm) high and 15 7/16" (391 mm) deep, and weighs 14.3 lb (6.5 kg). It is equipped with grips so that it can be carried easily.

Assemble editing and insert editing

Using the RS-232C remote control (AJ-A250 - available as an optional accessory), two units—one a player and the other a recorder—can be controlled directly from the remote control to perform editing operations.

Encoder control

The video output signals can be adjusted using the items on the setup menus.

2-channel digital audio with high sound quality

RS-232C control

Use of the RS-232C remote control (AJ-A250 - available as an optional accessory) enables not only editing operations to be performed but remote control can also be exercised, from a computer by connecting the RS-232C cable between from the computer and this VTR.

Up to 184 minutes of recording

The unit uses two types of cassette tapes: one for news gathering (max. 66 minutes) and the other for general-purpose applications (184 minutes: using AJ-5P92LP *).

The unit's compact design accommodates tapes with a 1/4" width.

* For AJ-5P92LP cassette tapes, use a VTR supporting DVCPRO (25 Mbps) 184 minute tapes.

Compatible with consumer-use equipment

Using the cassette adapter (AJ-CS750P: optional accessory), consumer-use cassette tapes shot using a consumer-use digital camera can be played back on this unit. The LP mode is not supported.

Time codes

The unit comes with a built-in time code generator (TCG)/time code reader (TCR).

Repeat playback

Any section on a tape can be played back repeatedly for an unlimited number of times or one time only.

Menu-driven setup

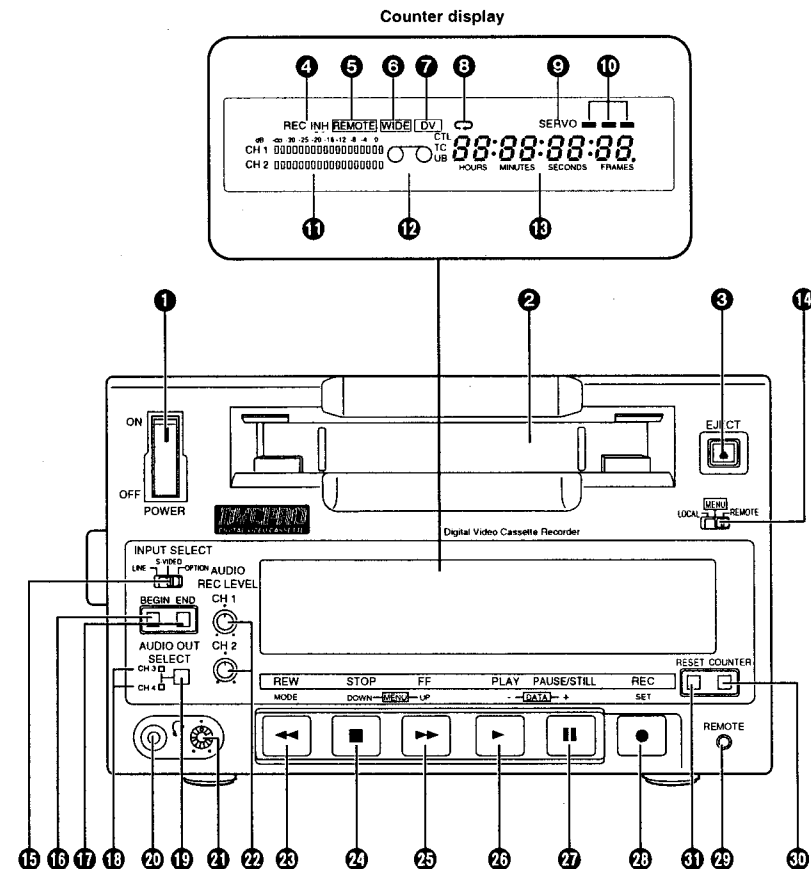
The unit's settings are performed using an interactive system while viewing the menus on the TV monitor screen.

Remote control

The unit can be operated from distances up to 5 meters away when the AG-A11 remote control (optional accessory) is connected.

Parts and Their Functions

Front panel



Parts and Their Functions

Front panel

① POWER switch

When the ON side is pressed, power is supplied to the unit, and the counter display is illuminated.

② Cassette insertion slot

News gathering cassettes, general-purpose cassettes and consumer-use cassettes accompanied by the adapter are inserted into this slot. Consumer-use cassettes can be used for playback only.

③ EJECT button

When this button is pressed, the tape is unloaded, and a few seconds later it is automatically ejected. If the counter display is set to the CTL display, the display will be reset.

④ REC/REC INH lamp

REC: The lamp lights during recording.
REC INH: The lamp lights when the accidental cassette erasure prevention status is established.
 It also lights when "ON" is selected as the "REC INHIBIT" setting on the setup menu.
 Recording cannot be conducted while this lamp is lighted.

⑤ REMOTE lamp

This lamp lights when the LOCAL/MENU/REMOTE switch has been set to REMOTE.

⑥ WIDE lamp

This lamp lights in the 16:9 wide screen mode.

⑦ Consumer-use cassette insertion lamp

This lamp lights when a cassette recorded using a consumer-use DV device has been inserted.

⑧ REPEAT lamp

This lamp lights during repeat playback.

⑨ SERVO lamp

This lamp lights when the drum servo and capstan servo are locked.

⑩ Channel status lamps

One of these lamps lights depending on the error rate status. (Green → Blue → Red)

Green: This lamp lights when the error rate for both the video and audio playback signals is at an acceptable level.

Blue: This lamp lights when the error rate for either the video or audio playback signals has deteriorated. A normal playback picture appears even when the lamp is lighted.

Red: This lamp lights when either the video or audio playback signals have become subject to correction or interpolation.

⑪ Level meter

This indicates the levels of the audio signals. During recording or E-E selection, it indicates the audio input signal levels; during playback, it indicates the audio output signal levels.

⑫ Cassette insertion lamp

This lamp lights when a cassette has been inserted into the unit.

⑬ Counter display

The time codes, CTL count values and on-screen information and other messages appear on this display.

⑭ LOCAL/MENU/REMOTE switch

This switch is set when the menu settings are to be performed or when the unit is to be controlled from an external source.

LOCAL: Set here when the unit is to be controlled using the controls provided on the unit's operation panel.

MENU: Set here when the on-screen menu items are to be set.

REMOTE: Set here when the unit is to be controlled using the RS-232C interface or other external control device.

⑮ INPUT SELECT switch

This is used to select the input signals.

LINE: Set here to record the signals which are supplied to the video signal input connector.

S-VIDEO: Set here to record the signals which are supplied to the S-VIDEO input connector.

OPTION: Set here to supply video and audio signals from the optional board and record them.

⑯ BEGIN button

This button sets the start point for repeat playback and it indicates the start point which is currently entered.

⑰ END button

This button sets the end point for repeat playback and it indicates the end point which is currently entered.

⑱ CH3/CH4 lamps

These lamps light when the audio signals have been set to CH3 and CH4 during DV format playback.

⑲ AUDIO OUT SELECT button

This button selects the audio signals which are to be output.

Parts and Their Functions

⑳ Headphones jack

When headphones are connected to this jack, they can be used to monitor the sound being recorded or played back.

㉑ Volume control

This is used to adjust the volume to the headphones.

㉒ Audio recording level controls

These controls are used to adjust the recording level for PCM audio signals CH1 and CH2.

㉓ REW button

When this button is pressed, the tape is rewound, and the playback pictures can be monitored if "TAPE" has been selected for the "S/F/R EE SEL" setup menu item setting.

㉔ STOP button

When this button is pressed, the tape stops traveling, and the still picture can be monitored when the "TAPE" setting has been selected for the "S/F/R EE SEL" setup menu item.

In the stop mode, the drum still continues to rotate, and the tape remains tightly wrapped around the drum.

When the designated period of time has elapsed in the stop mode, the unit is automatically set to the standby OFF mode in order to protect the tape.

㉕ FF button

When this button is pressed, the tape is fast-forwarded, and the playback pictures can be monitored if "TAPE" has been selected as the "S/F/R EE SEL" setup menu item setting.

㉖ PLAY button

When this button is pressed, playback is commenced.
 Recording is commenced when it is pressed together with the REC button.

㉗ PAUSE/STILL button

When this button is pressed during recording, recording is stopped temporarily. When it is pressed again, recording is resumed.

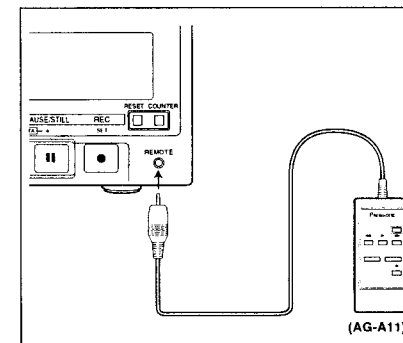
When this button is pressed during playback, the still picture mode is established. When it is pressed again, playback is resumed.

㉘ REC button

Recording is commenced when this button is pressed together with the PLAY button. When it is pressed during playback or in the STOP mode or standby OFF mode, the REC CHECK mode is established. (See page 15)

㉙ REMOTE connector

When the remote control (AG-A11) is plugged into this connector, the unit can be operated at a distance using the controls on the remote control instead of the unit's function buttons. Keep the LOCAL/MENU/REMOTE switch at the REMOTE position.



㉚ COUNTER button

This button is used to switch the counter display.
CTL: Set here to display the tape timer (control signal).

TC: Set here to display the time code.

UB: Set here to display the user's bit.

Remaining tape:

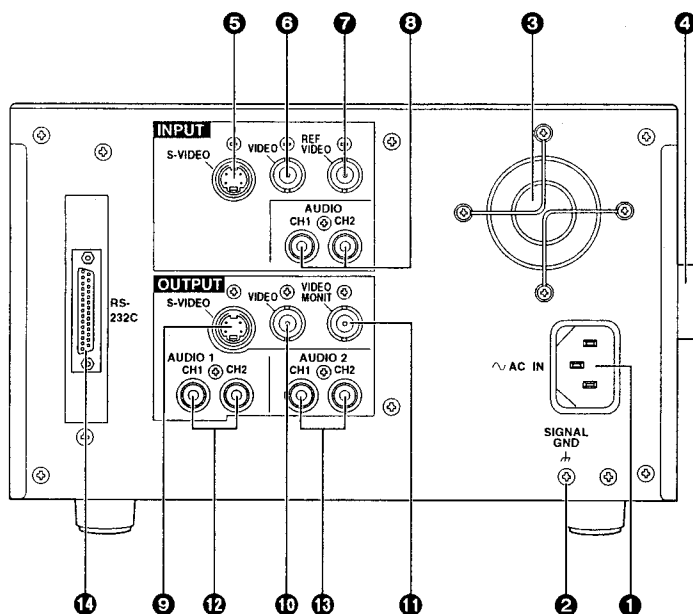
Set here to display the amount of remaining tape.

㉛ RESET button

When this button is pressed in the CTL mode, the counter display is reset to 00:00:00:00.

Parts and Their Functions

Connector panel

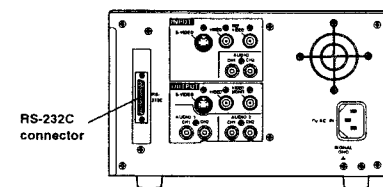


Parts and Their Functions

Connector panel

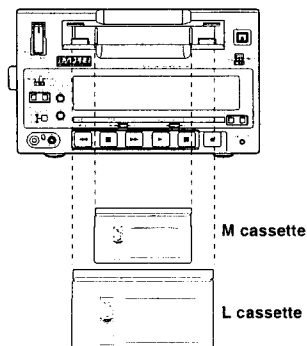
- ❶ **AC IN socket**
Plug one end of the unit's power cord into this power socket.
- ❷ **SIGNAL GND terminal**
In order to reduce noise, connect this terminal to the signal grounding terminal on one of the devices to which the unit is connected. This is not a safety ground.
- ❸ **Fan motor**
This motor is used to cool the unit.
- ❹ **Grip**
This grip is fitted on the side panel. When operating the unit, however, place the unit flat on its bottom surface.
- ❺ **S-VIDEO IN connector**
The S-VIDEO video signals are supplied to this connector.
- ❻ **VIDEO IN connector**
The analog video signals are supplied to this connector.
- ❼ **REF VIDEO IN connector**
This is connected to the reference video signal when the unit is to be synchronized with the reference sync signals of an external unit during playback.
- ❽ **AUDIO IN connectors**
The analog audio signals are supplied to this connector.
- ❾ **S-VIDEO OUT connector**
The S-VIDEO video signals are output from this connector.
- ❿ **VIDEO OUT connector**
The analog video signals are output from this connector.
- ⓫ **MONITOR OUT connector**
The video monitor signals are output from this connector. Superimposed video signals can be output.
- ⓬ **AUDIO 1 OUT connectors**
The analog audio signals are output from this connector.
- ⓭ **AUDIO 2 OUT connectors**
The analog audio signals are output from this connector.

- ⓯ **RS-232C connector**
Editing operations can be conducted speedily and efficiently by connecting the RS-232C remote control (AJ-A250 - available as an optional accessory) to this connector. Various operations can be performed from a computer by using the RS-232C cable which is available as an optional accessory.



Tapes

Tape	Description
Consumer-use cassettes (S cassette)	These tapes are designed to be used exclusively with consumer-use camera recorders. They can be used only for playback on this unit and only with the cassette adapter (optional accessory). Long-playing tapes (80 min. in standard mode, 120 min. in LP mode) cannot be used with this unit. It is recommended that Panasonic brand consumer-use DV tapes be used. Remember that inserting a cassette tape without using the cassette adapter can cause malfunctioning.
M cassettes	Tapes with up to 66 minutes of recording/playback time (AJ-P12MP, AJ-P24MP, AJ-P33MP, AJ-P46MP, AJ-P66MP)
L cassettes	Tapes with up to 184 minutes of recording/playback time (AJ-P34LP, AJ-P66LP, AJ-P94LP, AJ-P126LP, AJ-5P92LP *) * For AJ-5P92LP cassette tapes, use a VTR supporting DVCPRO (25 Mbps) 184 minute tapes.



Align the cassette with the center of the insertion slot, and push it in gently.
The cassette tape is loaded automatically.

<Checkpoints for consumer-use DV tape playback>

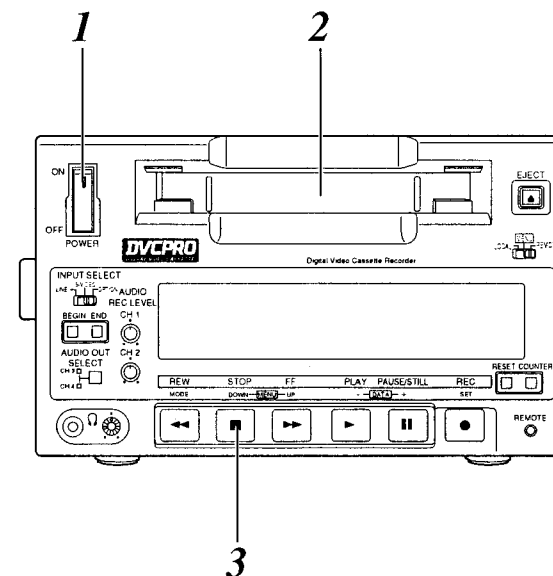
- Consumer-use DV tapes can be used for playback only.
- Consumer-use tapes recorded in the LP mode cannot be played back.
- Recording onto consumer-use tapes is not possible, therefore the recording-related functions are inhibited.
- The maximum speed at which consumer-use tapes can be forwarded or reversed is 32 times normal tape speed.
- The still pictures of consumer-use tapes are subject to disturbance.
- In the interest of protecting the tapes, it is recommended that consumer-use tape cue-up be kept to the minimum extent possible.
- The maximum time for the STILL TIMER when a consumer-use tape is used has been set to 10 seconds.
When the unit has been left standing in the STILL mode, the standby OFF (half loading) mode will be established after one minute has elapsed.
- During consumer-use tape search and still picture operations, a display indicating that the time code cannot be read may appear.

Operation

Turning on the power/inserting a cassette

Before proceeding to operate the unit, make sure that the unit has been connected properly.

- 1 Turn on the unit's power.
- 2 Insert the cassette tape.
Insert it at the prescribed position without forcing it in any way.
- 3 Check that the STOP lamp is lighted.
When the tape is inserted, the cylinder starts rotating automatically, the tape is loaded, and the STOP mode is established.
<Note>
It is possible to change the mode when a tape is inserted using the settings in Item No. 104 "TAPE IN MOD" of the Setup menu. (See page 29)



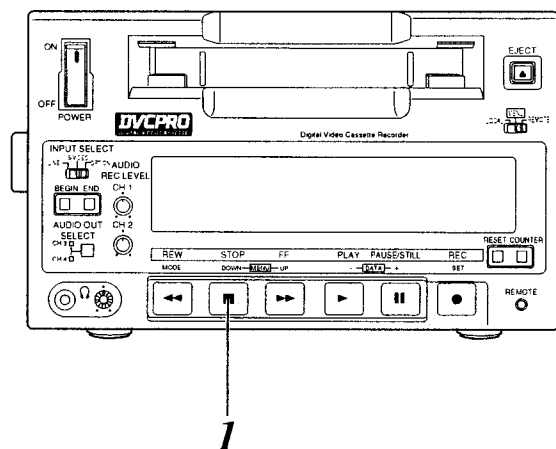
Operation

STOP mode

- 1** When the STOP button is pressed, the STOP mode is established. The STOP lamp lights, and the tape stops traveling.
 - In order to protect the tape, the tape protection mode will be established when the time selected for the "STILL TIMER" setup menu item setting has elapsed. (See page 31)
 - When the STOP, REW, FF or PLAY button is pressed, the corresponding mode will be established.

<Checkpoint for STILL TIMER setting>

- Repeatedly using the same locations on the same tape will increase the cumulative standby time at those locations. In the interest of protecting the tape, keep the standby times at the same locations as short as possible.



Operation

Recording

- 1** Set the accidental erasure prevention tab on the cassette tape to "recording," and insert the tape.
- 2** Press the STOP button to set the unit to the STOP mode.
- 3** Check that the REC INH lamp has gone off.
- 4** Selecting the video and audio input signals and adjusting the audio levels
 - 4-1** Selecting the video and audio input signals
 - 1** Connect the signals which are to be recorded.
 - 2** Select the input signals using the INPUT SELECT switch on the front panel.
 - 4-2** Adjusting the audio levels
 - 1** Adjust the levels of the audio input signals. The audio signals are recorded at the proper levels when the level controls are at their center-click positions.
- 5** Press the PLAY button while holding down the REC button. The REC and PLAY lamps light and recording commences.
- 6** Press the STOP button to end the recording. The recording now ends, and the STOP mode is established.

<Notes>

- If recording prevention signals are included among the input signals, the input signals will not be recorded properly.
- Check that the SERVO lamp has lighted during recording. The image which is played back will be disturbed if the lamp is flashing or off.

Operation

Pause/record (frame-to-frame continuity)

- 1** Press the PAUSE/STILL button while the cassette tape is playing.
When ON has been selected as the AUTO BACK setup menu item setting, the tape will be rewound for about 2 seconds starting from the position where the PAUSE/STILL was pressed. (See page 29)
- 2** Press the REC button to set the unit to the REC PAUSE mode.
The monitor display now switches to the E-E screen.
- 3** Press the PAUSE/STILL button to commence recording.
The tape travels to the position where the PAUSE/STILL was pressed in step 1 above, and recording commences.
<Note>
The E-E screen is now displayed.

Playback

- 1** Insert the cassette tape.
- 2** Press the PLAY button.
Normal playback is now commenced.
- 3** Press the STOP button to end the playback.
The unit is now set to the STOP mode.

<Note>

Check that the SERVO lamp has lighted during playback. The playback image will be disturbed if the lamp is off or flashing.

Cue/review

Hold down the FF or REW button during playback.

While this button is pressed, the tape will be cued or reviewed at about 10 times the normal tape speed.

Normal playback is restored when the button is released.

- When ON has been selected as the SEARCH CUE setup menu item setting, the CUE track sound will be output during cue or review. (See page 34)

Still picture playback

Press the PAUSE/STILL button during playback.

Normal playback is restored when the PAUSE/STILL button is pressed again.

- No sound will be heard during still picture playback.

Operation

Frame by frame advance

When the FF or REW button is pressed during still picture playback, the tape will be advanced forward or backward one frame at a time.

- No sound will be heard during frame by frame advance.

Audio switching

The AUDIO OUT SELECT button is used to switch to the desired sound.

By pressing this button, the audio output is switched to the modes in the sequence shown below.

Mode	AUDIO OUT connectors		Display tube	LED
	CH1 output	CH2 output		
A	CH1	CH2	CH1 CH2	CH3 <input type="checkbox"/> CH4 <input type="checkbox"/>
B	CH1		CH1	CH3 <input type="checkbox"/> CH4 <input type="checkbox"/>
C	CH2		CH2	CH3 <input type="checkbox"/> CH4 <input type="checkbox"/>
D	CH3	CH4	No display	CH3 <input checked="" type="checkbox"/> CH4 <input checked="" type="checkbox"/>
E	CH3		No display	CH3 <input checked="" type="checkbox"/> CH4 <input type="checkbox"/>
F	CH4		No display	CH3 <input type="checkbox"/> CH4 <input checked="" type="checkbox"/>
G	CH1+CH3	CH2+CH4	CH1 CH2	CH3 <input checked="" type="checkbox"/> CH4 <input checked="" type="checkbox"/>

The settings in the boxes () are valid only during DV format 4-channel mode playback.

□ OFF
■ ON

Sequence in which the modes are selected

→ A → B → C → D → E → F → G →

REC CHECK

By pressing the REC button during playback or in the STOP or STANDBY OFF mode, it is possible to check the audio input signals, time code generator value and the video input signals which have been selected using the INPUT SELECT switch.

• REC CHECK during playback

The REC CHECK mode is established while the REC button is held down. Normal playback is restored when the button is released.

• REC CHECK in the STOP or STANDBY OFF mode

The REC CHECK mode is established when the REC button is pressed. To release the mode, press the STOP button.

Operation

Repeat playback

Setting the BEGIN and END points [Menu mode]

- 1** Set the unit to the menu mode (by setting the LOCAL/MENU/REMOTE switch to the MENU position).
- 2** Select the "BGN PRESET" or "END PRESET" setup menu item, and press the DATA+ button (PAUSE/STILL button) or DATA- button (PLAY button).
(See page 29)
<Note>
It is possible to select whether the BEGIN or END point is to be set or not by operating the DATA+ or DATA- button.
- 3** Select TC or CTL using the COUNTER button.
<Note>
If the RESET button is pressed while the unit is in CTL mode, 00:00:00:00 will be set.
- 4** Select the digit to be changed (blinking display) using the UP button (FF button) or DOWN button (STOP button).
The frame digits cannot be selected. They always appear as "00."
- 5** The value is incremented or decremented using the DATA+ button (PAUSE/STILL button) or DATA- button (PLAY button).
- 6** Press the SET button (REC button) upon completion of the settings.
The settings are now stored in the memory.
- 7** Set the LOCAL/MENU/REMOTE switch to the LOCAL or REMOTE position.

<Notes>

- "----" appears on the display when the points have not been set. In this case, repeat playback will start at the beginning of the tape which serves as the BEGIN point and end at the end of the tape which serves as the END point.
- When the MODE button (REW button) is pressed instead of the SET button upon completion of the settings, the time code setting will be canceled.

Operation

Setting the BEGIN and END points [Front panel]

- 1** Set the unit to the local mode (by setting the LOCAL/MENU/REMOTE switch to the LOCAL position).
- 2** When the BEGIN or END button on the front panel is pressed, the current position is set as the BEGIN or END point.

Displaying the BEGIN and END points

- 1** Set the unit to the remote mode (by setting the LOCAL/MENU/REMOTE switch to the REMOTE position).
- 2** When the BEGIN or END button on the front panel is pressed, the BEGIN or END point is displayed while the button is held down.
The settings are not changed.

Setting the repeat playback mode

- 1** Set the unit to the menu mode (by setting the LOCAL/MENU/REMOTE switch to the MENU position).
- 2** Select the "MEMORY MODE" setup menu item, and select the repeat playback mode. (See page 29)

Setting	Operation
OFF	Normal operation
M-STOP	The tape stops near the BEGIN point when it is fast-forwarded or rewound.
REPT1	When the tape playback reaches the END point, the tape is rewound to the BEGIN point, where it stops.
CONT	When the tape playback reaches the END point, the tape is rewound to the BEGIN point and playback is repeated.

- 3** Set the LOCAL/MENU/REMOTE switch to the LOCAL or REMOTE position.

<Notes>

- The picture quality will deteriorate when the same tape is repeatedly played back over and over again. As a general guideline, replace the tape with a new one after about 100 repeat playback operations.
- When repeat playback is to be initiated using a consumer-use tape, the unit will not operate even if CONT has been selected as the setup menu item No.111 "MEMORY MODE" setting. (See page 29)

Time Codes and User's Bit

Time codes

Time codes are used when recording time code signals generated by the time code generator on the tape, reading out their values with the time code reader, and displaying the absolute positions of the tape in increments of hours, minutes, seconds and frames.

The time codes are written in the sub-code area (data area) of the helical track. For this reason, they can be read at any playback speed from the stop mode to slow-motion playback or high-speed playback.

The time code value is indicated on the display or superimposed.

TCR 00 : 07 : 04 : 24
↑ ↑ ↑ ↑
Hours Minutes Seconds Frames

User's bit

The user's bit is the 32-bit (8-digit) data frame in the time code signal which is made available to users. It can record operator numbers, etc.

The characters which can be used for the user's bit are 0 to 9 and A B C D E F.

Time Codes and User's Bit

Setting the time code

- 1 Set the unit to the menu mode (by setting the LOCAL/MENU/REMOTE switch to the MENU position).
- 2 Select the "TC PRESET" setup menu item, and press the DATA+ button (PAUSE/STILL button) or DATA- button (PLAY button). (See page 32)
- 3 Select the digit to be changed (blinking display) using the UP button (FF button) or DOWN button (STOP button).
- 4 The value is incremented or decremented using the DATA+ button (PAUSE/STILL button) or DATA- button (PLAY button).
- 5 Press the SET button (REC button) upon completion of the settings.
- 6 Set the LOCAL/MENU/REMOTE switch to the LOCAL or REMOTE position.

<Notes>

- The current time code value appears as the default value.
- When the RESET button is pressed while the digit to be changed is blinking, the display is reset to "00:00:00:00."
- The time code cannot be set unless P-REC or P-FREE has been selected as the "TC MODE" setup menu item setting. (See page 32)
- If the MODE button (REW button) is pressed instead of the SET button while the digit to be changed is blinking, the time code setting will be canceled.

Setting the user's bit

- 1 Set the unit to the menu mode (by setting the LOCAL/MENU/REMOTE switch to the MENU position).
- 2 Select the UB PRESET setup menu item, and press the DATA+ button (PAUSE/STILL button) or DATA- button (PLAY button). (See page 32)

Now follow the same procedure as for setting the time code.

Time Codes and User's Bit

Playing back the time code/user's bit

- 1 Set the unit to the STOP mode.
 - 2 Set to TC or UB using the COUNTER button.
TC: The time code appears on the display.
UB: The user's bit appears on the display.
- Interpolation is provided by the CTL signal if the time code cannot be read.

- 3 Press the PLAY button.
Playback is commenced, and the time code appears on the display.
When ON has been selected as the SUPER setup menu item setting, the time code value will be superimposed onto the video signals which are output from the MONITOR OUT connector. (See page 28)

<Notes>

- The colon between the seconds and frames changes to a period when a drop frame time code is read.
- Interpolation is automatically provided by the CTL signal if the time code signal is missing. The display appearing at this time will be as shown below.

T * R 00 : 07 : 04 : 24

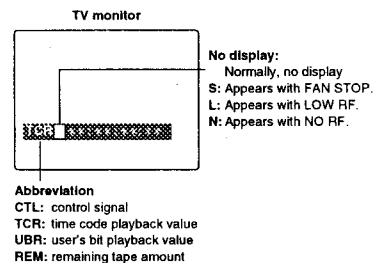


"*" appears here when the time code signal is missing.
(Superimpose only)

The colon between the seconds and frames changes to a period in the case of a drop frame.

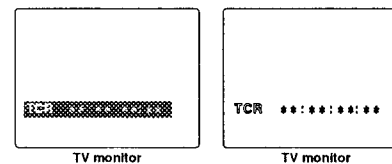
Superimposed Screens

When the unit's MONITOR OUT connector has been connected to a TV monitor, the control signals, time codes, etc. are displayed on the TV monitor screen as abbreviations.
The display can be switched ON or OFF using the setup menu item No. 000 setting. (See page 28)



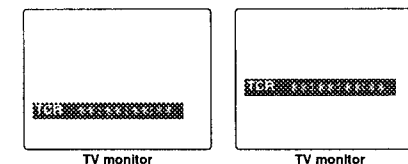
Characters displayed

The background of the characters superimposed onto the display can be changed using the setup menu item No.004 "CHARA TYPE" setting. (See page 28)



Display position

The position where the superimposed display appears can be changed using setup menu item No.002 "CHARA H-POS" and No.003 (CHARA V-POS). (See page 28)



<Note>

When the MODE button and the DATA+ button or DATA- button are pressed, the counter display appears temporarily while the buttons are held down so that the setting can be checked.
Even while the MODE button is held down, settings can still be performed using the DATA+ button or DATA- button as the actual status is checked.

Superimpose Screens

Operation mode

The value to be displayed can be selected using setup menu item No.001 "DISPLAY SEL". (See page 28)

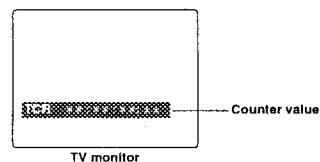
TIME: Counter value

T&STA: Counter value and VTR operation mode

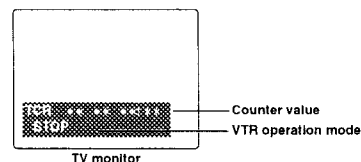
T&R: Counter value and remaining tape amount

T&S&R: Counter value, VTR operation mode and remaining tape amount

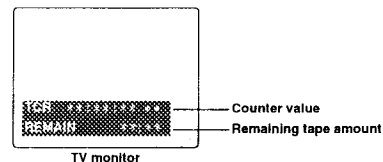
TIME mode



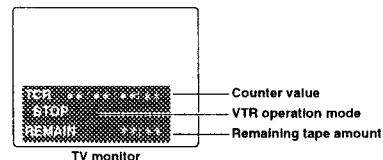
T&STA mode



T&R mode



T&S&R mode



<Notes>

One of the following errors may be displayed on the third line (remaining tape amount line) in the T&S&R mode. (See page 74)

[NO RF]:

This appears when a blank part has been detected on the tape.

"E-09" appears on the front panel's counter display.

[LOW RF]:

This appears when there is no head output.

"E-01" appears on the front panel's counter display.

[FAN STOP]:

This appears when the cooling fan has shut down.

"E-70" and the counter value appear alternately on the front panel's counter display.

[SERVO NOT LOCKED]:

This appears when the servo is not locked.

"E-00" appears on the front panel's counter display area.

Setup (Initial Settings)

The unit's main settings can be performed and checked using the on-screen menus which appear on the video monitor connected to the unit.

It is also possible to perform and check the settings using the item numbers and setting numbers which appear on the front panel's display.

One user setting memory set is provided with the unit to enable the desired settings to be stored in the memory ahead of time for use.

How to perform the settings using the on-screen menus

1 Set the LOCAL/MENU/REMOTE switch to the MENU position.

The unit is now set to the menu setting mode, and the menu screen appears on the video monitor.

SET-UP MENU	MAIN
	NO.00
* 00 SYSTEM	
000 BASIC	
100 OPERATION	
200 INTERFACE	
400 TAPE PROTECT	
500 TIME CODE	
600 VIDEO	
700 AUDIO	
END	

In the menu setting mode, the REW, STOP, FF, PLAY, PAUSE/STILL and REC buttons serve as the MODE, MENU-DOWN, MENU-UP, DATA-, DATA+ and SET buttons.

2 Press the MENU-UP button or MENU-DOWN button to move the cursor (*) to the menu where the changes are to be made.

3 Press the SET button to set the item.

To return to the menu screen, press the SET button while holding down the MODE button.

4 Press the MENU-UP button or MENU-DOWN button to move the cursor (*) to the item where the changes are to be made.

The page can be scrolled up or down by pressing the MENU-UP button or MENU-DOWN button while holding down the MODE button.

5 Press the DATA+ or DATA- button to change the setting.

The setting value will flash while changes to the setting are being performed.

6 Press the SET button to enter the setting.

To change another item, repeat steps 4, 5 and 6.

<Note>

The setting can be canceled by pressing the MODE button. To change another item without entering a setting, press the MODE button, and repeat steps 4, 5 and 6.

7 Set the LOCAL/MENU/REMOTE switch to the LOCAL or REMOTE position.

The menu setting procedure is now terminated.

How to restore the factory settings

1 Set the LOCAL/MENU/REMOTE switch to the MENU position.

The unit is now set to the menu setting mode, and the menu screen appears on the video monitor.

2 Press the RESET button.

The unit is set to the default setting mode, and the default setting screen appears on the video monitor.

SELECT	MODE
* ESCAPE	
LOAD	
SAVE	
PROTECT	

Setup (Initial Settings)

- 3** Press the MENU-UP button or MENU-DOWN button to position the cursor at **LOAD**, and press the **SET** button.
The unit is set to the LOAD mode, and the LOAD screen appears on the video monitor.

SET-UP MENU	<LOAD>
* NO	
FACTORY (ALL)	
FACTORY (NOT SYSTEM)	
USER (ALL)	
USER (NOT SYSTEM)	

- 4** Press the MENU-UP button or MENU-DOWN button to move the cursor to **FACTORY (ALL)**, and press the **SET** button.
- If the cursor is moved to **FACTORY (NOT SYSTEM)** and this operation is performed, all the menus except the SYSTEM menu will be restored to the factory settings.
 - If the cursor is moved to **NO** and this operation is performed, operation will return to the menu screen without restoring the factory settings.

- 5** Set the LOCAL/MENU/REMOTE switch to the **LOCAL** or **REMOTE** position.
The menu setting procedure is now terminated.

How to set the user default settings

- 1** Set the LOCAL/MENU/REMOTE switch to the **MENU** position.
The unit is now set to the menu setting mode, and the menu screen appears on the video monitor.

- 2** Performs steps 2 through 6 of "How to perform the settings using the on-screen menus," and change to the desired settings.
(See page 23)

- 3** Press the **RESET** button.
The unit is set to the default setting mode, and the default setting screen appears on the video monitor.

SELECT	MODE
*	ESCAPE
	LOAD
	SAVE
	PROTECT

- 4** Press the MENU-UP button or MENU-DOWN button to position the cursor at **SAVE**, and press the **SET** button.
The unit is set to the SAVE mode, and the SAVE screen appears on the video monitor.

SET-UP MENU	<SAVE>
* NO	
USER (ALL)	
USER (NOT SYSTEM)	

- 5** Press the MENU-UP button or MENU-DOWN button to move the cursor to **USER (ALL)**, and press the **SET** button.
- If the cursor is moved to **USER (NOT SYSTEM)** and this operation is performed, all the menus except the SYSTEM menu will be updated.
 - If the cursor is moved to **NO** and this operation is performed, operation will return to the menu screen without updating the settings.

- 6** The screen to confirm whether **SAVE** is to be initiated or canceled now appears. Press the MENU-UP button or MENU-DOWN button to move the cursor to the **YES** position, and press the **SET** button.
The settings are now saved in the memory.

SAVE OK?
* NO
YES

- 7** Set the LOCAL/MENU/REMOTE switch to the **LOCAL** or **REMOTE** position.
The menu setting procedure is now terminated.

Setup (Initial Settings)

How to load the user default settings

- 1** Set the LOCAL/MENU/REMOTE switch to the **MENU** position.
The unit is now set to the menu setting mode, and the menu screen appears on the video monitor.

- 2** Press the **RESET** button.
The unit is set to the default setting mode, and the default setting screen appears on the video monitor.

SELECT	MODE
*	ESCAPE
	LOAD
	SAVE
	PROTECT

- 3** Press the MENU-UP button or MENU-DOWN button to position the cursor at **LOAD**, and press the **SET** button.
The unit is set to the LOAD mode, and the LOAD screen appears on the video monitor.

SET-UP MENU	<LOAD>
* NO	
FACTORY (ALL)	
FACTORY (NOT SYSTEM)	
USER (ALL)	
USER (NOT SYSTEM)	

- 4** Press the MENU-UP button or MENU-DOWN button to move the cursor to **USER (ALL)**, and press the **SET** button.
- If the cursor is moved to **USER (NOT SYSTEM)** and this operation is performed, the user settings for all the menus except the SYSTEM menu which are saved in the memory will be used for operation.
 - If the cursor is moved to **NO** and this operation is performed, operation will return to the menu screen without any changes made to the user settings which are saved in the memory.

- 5** Set the LOCAL/MENU/REMOTE switch to the **LOCAL** or **REMOTE** position.
The menu setting procedure is now terminated.

How to initiate the menu protect mode

By setting the unit to the menu protect mode, the opening of the setup menus can be disabled even if the front panel's LOCAL/MENU/REMOTE switch is set to the **MENU** position.

- 1** Set the LOCAL/MENU/REMOTE switch to the **MENU** position.
The unit is now set to the menu setting mode, and the menu screen appears on the video monitor.

- 2** Press the **RESET** button.
The unit is set to the default setting mode, and the default setting screen appears on the video monitor.

SELECT	MODE
*	ESCAPE
	LOAD
	SAVE
	PROTECT

- 3** Press the MENU-UP button or MENU-DOWN button to position the cursor at **PROTECT**, and press the **SET** button.
The unit is now set to the menu protect mode, and the screen to confirm whether menu protect is to be initiated or canceled now appears on the video monitor.

MENU PROTECT OK?
* NO
YES

- 4** Press the MENU-UP button or MENU-DOWN button to move the cursor to the **YES** position, and press the **SET** button.
The menu screen now appears.

Setup (Initial Settings)

- 5** Set the LOCAL/MENU/REMOTE switch to the LOCAL or REMOTE position. The unit is now set to the menu protect mode.
When the LOCAL/MENU/REMOTE switch is set to the MENU position, "MENU PROTECTED" appears on the video monitor screen instead of the menu setting mode being established.

<Note>

If, while the menu protect menu is set, the LOCAL/MENU/REMOTE switch is set to the menu position while the front panel's COUNTER button is held down, the menu setting mode will be established, and regular menu settings can be performed.
Perform steps 2 through 7 in "How to perform the settings using the on-screen menus."
(See page 23)

How to release the menu protect mode

- 1** Set the LOCAL/MENU/REMOTE switch to the MENU position while holding down the front panel's COUNTER button.
The unit is now set to the menu setting mode, and the menu screen appears on the video monitor.
- 2** Perform steps 2 and 3 of "How to initiate the menu protect mode" described above.
The screen to confirm whether menu protect is to be initiated or canceled now appears on the video monitor.
- MENU PROTECT OK?
 * NO
 YES
- 3** Press the MENU-UP button or MENU-DOWN button to move the cursor to the NO position, and press the SET button.
The menu protect mode is now released.

How to display the DIAG menu

This unit incorporates a function for displaying the HOURS METER and software program version on the video monitor.

- 1** Set the LOCAL/MENU/REMOTE switch to the MENU position while holding down the EJECT button.
The unit is now set to the DIAG display mode, and the HOURS METER appears on the video monitor.

DIAG-MENU	HOURS METER
H0 OPERATION	00000H
H1 DRUM RUN	00000H
H2 TAPE RUN	00000H
H3 THREADING	00000T

- 2** With the HOURS METER displayed, press the MENU-UP button or MENU-DOWN button while holding down the MODE button.
The software program version is displayed on the video monitor.
The front microcomputer version appears on the front panel's counter display.

DIAG-MENU	VERSION
<NTSC>	
IF	1.***-***
AV-SYSCON	1.***-***
SBC	1.***-***
CYLINDER	1.***-***
REEL	1.***-***
END	

When the MENU-UP button or MENU-DOWN button is pressed again while holding down the MODE button, the HOURS METER display is restored.

- 3** Set the LOCAL/MENU/REMOTE switch to the LOCAL or REMOTE position.
The normal mode is now restored.

Setup Menus

SYSTEM menu

Item		Setting		Description of setting
No.	Superimposed display	No.	Superimposed display	
00	SYSTEM H	0000	- 128	For adjusting the horizontal phase. This item enables the phase to be varied by up to $\pm 1.5 \mu$.
		0255	127	
01	SC COARSE	0000	0	For coarsely adjusting the subcarrier phase.
		0001	90	This item enables the phase to be varied by selecting one of 4 positions at 90-degree increments.
		0002	180	
		0003	270	
02	SC FINE	0000	- 128	For finely adjusting the subcarrier phase. This item enables the phase to be varied by up to 90 degrees.
		0255	127	By using this item in tandem with SC COARSE, any setting up to 360 degrees can be achieved.
03	SCH COARSE	0000	0	For coarsely adjusting the SCH (Sub Carrier to Horizontal) phase.
		0001	90	This item enables the phase to be varied by selecting one of 4 positions at 90-degree increments.
		0002	180	
		0003	270	
04	SCH FINE	0000	- 128	For finely adjusting the SCH (Sub Carrier to Horizontal) phase. This item enables the phase to be varied by up to 90 degrees.
		0255	127	By using this item in tandem with SCH COARSE, any setting up to 360 degrees can be achieved.
05	VIDEO LEVEL	0000	- 128	For setting the video level.
		Q128	Q	This item enables the video level to be varied by up to ± 3 dB.
		0255	127	
06	SET UP LEVEL	0000	- 128	For setting the setup amount.
		Q128	Q	This item enables the setup amount to be varied by up to 10 IRE.
		0255	127	
07	HUE	0000	- 128	For setting the hue.
		Q128	Q	This item enables the hue to be varied by up to ± 25 degrees.
		0255	127	
08	CHROMA LEVEL	0000	- 128	For setting the chroma level.
		Q128	Q	This item enables the chroma level to be varied by up to ± 3 dB.
		0255	127	

The underlining denotes the factory mode setting.

<Notes>

- Item numbers 05, 06, 07 and 08 are initialized only when ALL has been selected by the initialization operation.
- The Q128 setting items are not initialized by the regular menu reset operation.
The unit is shipped with the settings already adjusted.

Setup Menus

BASIC menu

Item		Setting		Description of setting
No.	Superimposed display	No.	Superimposed display	
000	SUPER	0000	<u>OFF</u>	For setting whether to show the superimposed display from the MONITOR OUT connector. 0: The superimposed display is not shown. ON 1: The superimposed displayed is shown.
001	DISPLAY SEL	0000	TIME	For setting what is to be shown by the superimposed display from the MONITOR OUT connector. 0: Only the time is displayed. T&STA 1: The time and operation mode are displayed. T&R 2: The time and remaining tape amount are displayed. T&S&R 3: The time, operation mode and remaining tape amount are displayed.
002	CHARA H-POS	0000	0	For setting the horizontal position of the superimposed characters. 1 (10 steps)
		0003	<u>4</u>	
		0007	9	
003	CHARA V-POS	0000	0	For setting the vertical position of the superimposed characters. 1 (23 steps)
		0001	1	
		0003	3	
		0007	<u>22</u>	
004	CHARA TYPE	0000	WHITE	For selecting the type of characters for the superimposed and menu displays. 0: White characters on a black background W/OUT 1: White characters with black outlines
		0001	W/OUT	

The underlining denotes the factory mode setting.

<Note>

If the DATA+ button or DATA- button is pressed with the MODE button held down when the CHARA H-POS and CHARA V-POS items are being set, the counter display appears temporarily, and the positions can be set while the actual status is monitored.

Setup Menus

OPERATION menu

Item		Setting		Description of setting
No.	Superimposed display	No.	Superimposed display	
100	LOCAL ENABLE	0000	<u>DIS</u>	For selecting the switches which can be operated on the front panel in the REMOTE mode. 0: None of the switches can be operated. ST&EJ 1: Only the STOP switch and EJECT switch can be operated.
101	TAPE TIMER	0000	<u>12H</u>	For selecting the CTL counter display. 0: ±12-hour display 24H 1: 24-hour display
102	S/F/R EE SEL	0000	<u>EE</u>	For selecting the EE or VV output in the STOP, FF or REW mode. 0: E-E (electric modulation to electric playback) is output. TAPE 1: V-V (VTR to VTR recording) is output.
103	WIDE MODE	0000	<u>AUTO</u>	For selecting the WIDE mode. 0: The mode is detected automatically. WIDE 1: The mode is forcibly treated as WIDE. NORMAL 2: The mode is forcibly treated as NORMAL.
104	TAPE IN MOD	0000	<u>STOP</u>	For selecting the operation which is to be performed when the cassette has been inserted into the unit. 0: STOP REW 1: REWIND PAUSE 2: PLAY PAUSE PLAY 3: PLAY
105	TAPE END MOD	0000	<u>STOP</u>	For selecting the operation which is to be performed when the tape has arrived at the end. 0: STOP REW 1: REWIND REW → EJECT 2: The tape is rewound and, upon completion of rewinding, it is ejected. EJECT 3: EJECT
106	AUTO BACK	0000	<u>OFF</u>	For selecting whether the tape is be automatically rolled back in order to ensure frame to frame continuity. 0: The tape is not automatically rolled back. ON 1: The tape is automatically rolled back.
107	FORMAT SEL	0000	<u>DVCPRO</u>	For selecting the format when an L cassette is to be used. 0: DVCPRO mode DV 1: DV mode DVCAM 2: DVCAM mode
108	REC INHIBIT	0000	<u>OFF</u>	For selecting whether to inhibit recording on the unit. 0: Recording is allowed. ON 1: Recording is inhibited.
109	CAP. LOCK	0000	<u>2F</u>	For selecting the capstan lock mode. 0: The 2F lock mode is selected for the capstan. 4F 1: The 4F lock mode is selected for the capstan.
110	FF. REW MAX	0000	<u>X32</u>	For setting the maximum FF and REW speed. 0: 32 times normal tape speed X60 1: 60 times normal tape speed
111	MEMORY MODE	0000	<u>OFF</u>	For setting the memory operation. 0: The memory operation is not performed. M-STOP 1: The tape is stopped during FF or REW near the BEGIN point. REPT 2: When the tape arrives at the end, it is rewound to the BEGIN point where it stops. CONT 3: When the tape arrives at the end, it is rewound to the BEGIN point and played. This sequence is repeated.
112	BGN PRESET			For setting the BEGIN point.
113	END PRESET			For setting the END point.

The underlining denotes the factory mode setting.

Setup Menus

INTERFACE menu

Item		Setting		Description of setting
No.	Superimposed display	No.	Superimposed display	
200	BAUD RATE	0000 0001 0002 0003 0004	1200 2400 4800 <u>9600</u> 19200	For setting the RS-232C transmission speed (baud rate).
201	DATA LENGTH	0000 0001	<u>8BIT</u> 7BIT	For setting the RS-232C data length.
202	STOP BIT	0000 0001	<u>1BIT</u> 2BIT	For setting the RS-232C stop bit.
203	PARITY	0000 0001 0002	<u>NONE</u> ODD EVEN	For setting none, odd or even as the RS-232C parity bit. 0: The parity bit is not used. 1: Odd parity is used for the parity bit. 2: Even parity is used for the parity bit.
204	ACK RETURN	0000 <u>0001</u>	OFF <u>ON</u>	For setting the RS-232C return data. 0: The ACK code is not returned. 1: The ACK code is returned.
205	232C ID SEL	0000 0001	<u>D250</u> D230	For setting the RS-232C device ID. 0: The ID of the AJ-D250 is returned. Use this setting when exercising control using the AJ-A250 or a computer. 1: The ID of the AJ-D230 is returned. Use this setting when exercising control using the AJ-A571. When the AJ-A571 is used for control, the unit can be used as a player VTR.

The underlining denotes the factory mode setting.

Setup Menus

TAPE PROTECT menu

Item		Setting		Description of setting
No.	Superimposed display	No.	Superimposed display	
400	STILL TIMER	0000 0001 0002 0003 0004 0005	0.5s 5s 10s 30s 1min <u>2min</u>	For selecting the time taken for the tape protection mode to be established when the unit has been left standing in the STOP, PLAY, PAUSE or STILL mode. (Units = s: seconds, min: minutes) • When the unit has been left standing in the REC PAUSE mode, the time taken for the tape protection mode to be established is fixed at 2 minutes.
401	SRC PROTECT	0000 0001	<u>STEP</u> HALF	For setting the tape protection operation when the unit has been left standing in the PAUSE mode. 0: Step (step FWD in STILL or PAUSE mode; step REV in REC PAUSE mode) 1: Half loading (STANDBY OFF)
402	DRUM STDBY	0000 0001	OFF <u>ON</u>	For setting the mode in which the drum is to be stopped during STANDBY OFF. 0: The drum is stopped during STANDBY OFF. 1: The drum rotates at all times.
403	STOP PROTECT	0000 0001	STEP <u>HALF</u>	For setting the tape protection operation when the unit is left standing in the STOP mode. 0: Step 1: Half loading

The underlining denotes the factory mode setting.

<Note>

When a consumer-use DV format tape is used, the tape protection mode will be established in 10 seconds even if 30s, 1min or 2min is selected as the STILL TIMER item setting.

Setup Menus

TIME CODE menu

Item		Setting		Description of setting
No.	Superimposed display	No.	Superimposed display	
500	VITC POS-1	0000 0001 <u>0006</u> 0010	10L 11L 16L 20L	For setting the position where the VITC signal is to be inserted. (The same line as the one set for the VITC POS-2 item cannot be selected.)
501	VITC POS-2	0000 0001 <u>0008</u> 0010	10L 11L 18L 20L	For setting the position where the VITC signal is to be inserted. (The same line as the one set for the VITC POS-1 item cannot be selected.)
502	VITC BLANK	0000 <u>0001</u>	BLANK THRU	For setting whether the VITC signal is to be output. 0: The VITC signal is not output. 1: The VITC signal is output.
503	TCG REGEN	0000 0001 0002	<u>TC</u> AUB TC UB	For selecting the signal to be regenerated when the time code generator (TCG) is in the regeneration mode (item No.506). 0: Both TC and UB are regenerated. 1: Only TC is regenerated. 2: Only UB is regenerated.
504	BINARY GP	0000 0001 0002 0003 0004 0005 0006 0007	000 001 010 011 100 101 110 111	For setting the status for using the user's bit of the TCG. 0: Not specified (a character set is not used). 1: ISO characters (8-bit character set complying with ISO646, ISO2022) 2: Unassigned 1 (undefined) 3: Unassigned 2 (undefined) 4: Unassigned 3 (undefined) 5: Page/line (page/line multiplex system complying with SMPTE262M) 6: Unassigned 4 (undefined) 7: Unassigned 5 (undefined)
505	DF MODE	0000 0001	<u>DF</u> NDF	For setting drop frame or non-drop frame for the CTL and TCG. 0: The drop frame mode is established for operation. 1: The non-drop frame mode is established for operation.
506	TC MODE	0000 0001 0002 0003	P-REC P-FREE <u>J-REG</u> E-VITC	For setting the TCG mode. 1: PRESET of the internal TC is used in the REC RUN mode. 0: PRESET of the internal TC is used in the FREE RUN mode. 2: The internal TC is used in the regeneration mode. 3: The input video signal VITC is used in the regeneration mode.
507	TC PRESET			For setting the TCG value.
508	UB PRESET			For setting the user's bit value.
509	TCG CF FLAG	0000 0001	<u>OFF</u> ON	For setting the CF flag of the TCG to ON or OFF. 0: The CF flag is set to OFF. 1: The CF flag is set to ON.

The underlining denotes the factory mode setting.

Setup Menus

VIDEO menu

Item		Setting		Description of setting
No.	Superimposed display	No.	Superimposed display	
600	VIDEO MODE	0000 <u>0001</u>	B/W COLOR	For setting the recording and playback of the video signals. 0: When monochrome signals are used 1: When color signals are used • Set this item to the B/W mode when monochrome signals are to be recorded or played back. Set the item to the COLOR mode with regular color signals. • If color signals are recorded in the B/W mode, the pictures will be abnormally colored when the signals are played back.
601	V-MUTE SEL	0000 <u>0001</u>	N-MUTE LOW-RF	For selecting the processing to be performed in the event that LOW-RF has occurred or the servo lock has been disengaged during playback. 0: The video signals are not muted. 1: The video signals are muted.
602	CC (F1) BLANK	0000 <u>0001</u>	BLANK THRU	For selecting ON or OFF for the closed capture signals in the first field. 0: Forcible blanking 1: No blanking
603	CC (F2) BLANK	0000 <u>0001</u>	BLANK THRU	For selecting ON or OFF for the closed capture signals in the second field. 0: Forcible blanking 1: No blanking
604	FREEZE SEL	0000 0001	<u>FIELD</u> FRAME	For selecting the freeze mode of the still pictures in the PLAY PAUSE or frame advance mode. 0: Field freeze 1: Frame freeze
605	IN FRM DET	0000 <u>0001</u>	FORCED AUTO	For selecting the process for detecting the input signal frames. 0: The frames are detected at all times. 1: Frame detection is inhibited only with non-standard signals.
606	STD/NSTD SEL	0000 0001	<u>AUTO</u> NSTD	For selecting the video signal processing. 0: The mode corresponding to the input is automatically established. 1: The non-standard mode is forcibly established.
607	VIN SETUP	0000 0001	<u>THRU</u> CUT	For selecting the setup level when input composite signals are to be converted into component signals and recorded. 0: The input signals are recorded as they are. 1: The signals are recorded after removing the 7.5% setup.

The underlining denotes the factory mode setting.

Setup Menus

AUDIO menu

Item		Setting		Description of setting
No.	Superimposed display	No.	Superimposed display	
700	AUDIO EDIT IN	<u>0000</u> 0001	<u>CUT</u> FADE	For selecting the joining method at the IN point during digital audio editing. 0: Cutting 1: Fading
701	AUDIO EDIT OUT	<u>0000</u> 0001	<u>CUT</u> FADE	For selecting the joining method at the OUT point during digital audio editing. 0: Cutting 1: Fading
702	PB FADE	<u>0000</u> 0001 0002	<u>AUTO</u> CUT FADE	For selecting the processing to be performed for the audio edit points (IN point, OUT point, frame continuity point) during playback. 0: The same status as for recording is established. 1: Forcible cutting 2: Forcible fading
703	SEARCH CUE	<u>0000</u> 0001	OFF ON	For selecting whether to output the CUE AUDIO signal during searches and FF or REW (VV). 0: The signal is not output. 1: The signal is output.
704	DV PB ATT	<u>0000</u> 0001	OFF ON	For selecting the audio output level during DV format playback. 0: Normal playback level 1: The output level is controlled only during DV format playback.
705	CUE INSERT	<u>0000</u> 0001	OFF ON	For selecting whether to record the CH1/CH2 mixed signal for audio input in CUE AUDIO when editing the audio insert. 0: The mixed signal is not recorded as the CUE AUDIO signal. 1: The mixed signal is recorded as the CUE AUDIO signal.

The underlining denotes the factory mode setting.

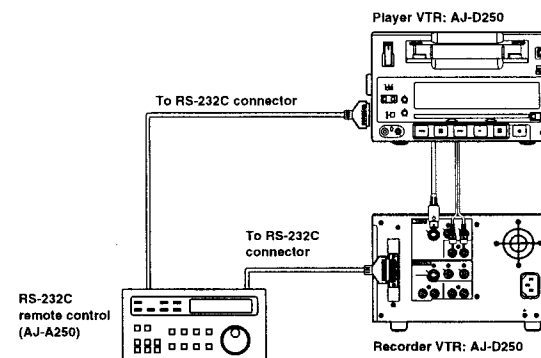
Editing

Editing with the RS-232C remote control

Using the RS-232C remote control (AJ-A250), which is available as an optional accessory, two units—a player VTR and a recorder VTR—can be controlled directly from the controller to enable speedier and more efficient assemble editing, insert editing and other editing jobs.

Preparation:

- As shown in the figure below, connect the player VTR and recorder VTR to the RS-232C remote control.



- Set the INPUT SELECT switch to the position which corresponds to the connection with the player VTR.
S-VIDEO: When connected to the S-VIDEO IN and AUDIO IN connectors
LINE: When connected to the VIDEO IN and AUDIO IN connectors
- Set the LOCAL/MENU/REMOTE switch to the REMOTE position.

<Note>

The disturbances in the pictures during preview can be alleviated by inputting a black burst signal or other reference signal to the REF VIDEO input connectors of the player VTR and recorder VTR.

Operation:

Use the RS-232C remote control to control both the player VTR and recorder VTR.

Read the operating instructions of the AJ-A250 carefully.

<Note>

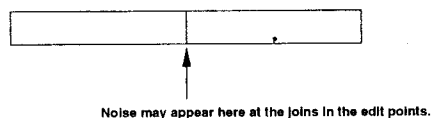
When the AG-A571 is to be used as the remote control, select D230 as the setup menu item No.205 "232C ID SEL" setting. (See page 30)
 The unit can be used as the player VTR.

Audio editing functions

The information (setup menu item No. 700, 701) concerning the selection of the joining method used at the edit points is recorded during digital audio editing, and this information is detected during playback so that the edit points can be processed automatically. This applies only when AUTO has been selected as the playback fade selection (setup menu item No.702) setting.

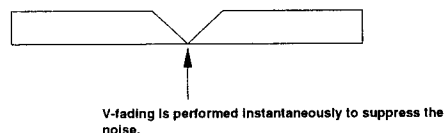
Cutting

When **CUT** has been selected as the joining method at the edit points. (setup menu item No.700, 701)



V-fading

When **FADE** has been selected as the joining method at the edit points (setup menu item No.700, 701)



<Notes>

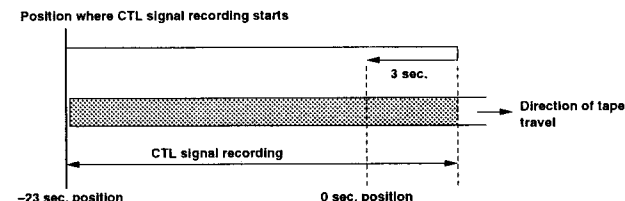
- When **CUT** has been selected for the playback fade selection (setup menu item No.702), cutting will be performed for all the joins at the edit points.
- When **FADE** has been selected for the playback fade selection (setup menu item No.702), V-fading is performed for all the joins at the edit points.
- When only one channel has been selected for the sound to be inserted during insert editing, the sound of the channel which has not been selected will be muted.

First Edit Function (Preparing the editing tape)

The CTL (control) signal must be recorded ahead of time onto the editing tape. The method used to record it differs depending on whether assemble editing or insert editing is to be performed.

First edit for assemble editing

In the case of a tape for assemble editing, the CTL signal is recorded at the beginning of where the recording is to be commenced.



First edit for insert editing

In the case of a tape for insert editing, the CTL signal is recorded from the beginning of where the recording is to be commenced to the end.

The "E-00" servo lock error appears on the tape counter when insert editing is performed for a tape on which the CTL signal has not been recorded.

When insert editing is performed, the CTL signal must be recorded ahead of time.

<Note>

When first edit is to be performed, operation can be conducted by connecting the RS-232C remote control (AJ-A250), which is available as an optional accessory. However, control using the RS-232C interface (EFE command) can also be exercised from a computer. (See page 50)

RS-232C

The following functions can be controlled using the RS-232C interface.

■ Basic operations

EJECT	INSERT
STOP	SEARCH PAUSE
PLAY	SEARCH SPEED UP
REC/PLAY	SEARCH SPEED DOWN
FF	FORWARD/ADVANCE
REW	REVERSE/ADVANCE
PAUSE	REVERSE/PLAY
COUNTER RESET	DIRECT SEARCH

■ Status checks

The current VTR mode can be checked.

■ Simple editing functions

Video/audio, audio/video and various other insert editing operations can be performed.

■ Search function

Specific frame positions can be searched.

1. Hardware specifications

(1) Interface specifications

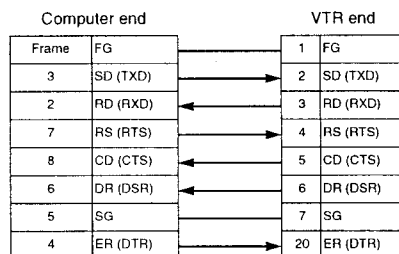
Connector:

D-SUB 25 pins

DCE specifications (straight cable supported)

Pin No.	Signal	Description
1	FG	Frame GND
2	SD (TXD)	Transmitted Data
3	RD (RXD)	Received Data
4	RS (RTS)	Request to Send
5	CD (CTS)	Clear to Send
6	DR (DSR)	Data Set Ready
7	SG	Signal GND
20	ER (DTR)	Data Terminal Ready

Example of connections



(2) Communication parameters

The unit's communication parameters are as listed below. If any of the parameters are to be changed, select the items on the menu concerned, and make the changes.

Baud Rate: 9600 bps

Bit Length: 8 bit

Stop Bit: 1 bit

Parity: NONE

RS-232C

2. Software specifications

(1) External interface specifications

Communication system	Asynchronous system, full duplex
Baud rate	1200, 2400, 4800, 9600 or 19200 bps
Bit length	8 bits or 7 bits
Stop bit	1 bit or 2 bits
Parity	None, odd or even

<Notes>

- The factory settings are 9600 bps, 8 bits, 1 stop bit and none as the parity.
- The unit has a 127-byte receive buffer.

(2) Sending format (computer → VTR)

■ Data format

[STX] [discrimination] [:] [data] [ETX]
02H XX XX XX 3AH XX...XX 03H

20H<XX<7FH (XX= HEX character code)

- **discrimination**: Command identifier (3 bytes)
- **:**: Code representing a delimiter between the command and data.
- **data**: The data code is added as required.

1. All send commands must start with STX (character code 02H).
Next comes the discrimination, which identifies the command.
If required, the data is added following the colon.
At the very end comes ETX (character code 03H).
2. When STX is re-sent before ETX is sent, the receive buffer inside the VTR is cleared (all the data received so far will be destroyed), and the data is processed anew with the STX which was received again at the head.

(3) Receiving format (VTR → computer)

The VTR responds to a send command with the format data below.

1. First, the VTR returns the data indicating whether the command from the computer was received properly.

- 1) If the communication was error-free, the VTR returns the ACK (Acknowledge) data.

[ACK]
06H

- 2) If there was a problem in communication, the VTR returns the data starting with NAK (Negative Acknowledge).

If the VTR was in the process of sending the data when the computer sent its command, the VTR returns NAK after it completes the sending of the data.
The VTR now destroys all the received data with errors.

[NAK] □
15H (XX)

- Contents of □
1 (31H): Parity Error
3 (33H): Framing Error
4 (34H): Over Run Error

2. Next, after ACK is returned when the communication was error-free, the data is returned in the following format by the operation of the VTR.

- 1) The format of the response (return) data in cases where commands from the computer were properly received by the VTR is as follows.

[STX] [data] [ETX]
02H XX...XX 03H

example:

Send command Return data = Receive data

[STX] QOP [ETX] → [ACK] [STX] OEJ [ETX]

[STX] QCD [ETX] → [ACK] [STX] CD [] [] [] [] [] [] [] [] [ETX]

- 2) If there were errors in the data or any problems in the VTR, a description of the reason why the data was not received is returned in the following format.

[STX] E R 0 0 □ [ETX]
02H 45H 52H 30H 30H XX 03H

- Contents of □

- 1 (31H): A command which is not supported or a command execution error
2 (32H): Erroneous parameter with the wrong data code
3 (33H): Receive buffer overflow error

[STX] E R 1 0 □ [ETX]
02H 45H 52H 31H 30H XX 03H

- Contents of □

- 2 (32H): Front loading error
3 (33H): Loading error
4 (34H): Drum capstan system error
5 (35H): Reel system error
6 (36H): Tension system error
7 (37H): Fan motor error
8 (38H): Dew error

[STX] E R 1 2 □ [ETX]
02H 45H 52H 31H 32H XX 03H

- Contents of □

- 0 (30H): Search error (start/end)
1 (31H): Search error (search aborted by front panel operation)
2 (32H): Search error (no target position)
3 (33H): Search error (search aborted by command)

[STX] E R 1 F F [ETX]
02H 45H 52H 31H 46H 46H 03H
System (servo communication) error

(4) Command list**■ List of commands**

The table below lists the send commands and operations for each mode as seen from the computer end.

[STX] = HEX code 02H

[ETX] = HEX code 03H

: = HEX code 3AH

The discrimination part and data part represent the ASCII codes which support the corresponding symbols.

• Audio control commands

Sends data of computer	Return data from VTR	Description of command
[STX] AOC:m [ETX]	[STX] AOC [ETX]	Sets the audio signal output channel.

• Counter control commands

Sends data of computer	Return data from VTR	Description of command
[STX] CCP:data [ETX]	[STX] CCP [ETX]	Presets the CTL counter data (same as CLP).
[STX] CDF [ETX]	[STX] CDF [ETX]	Cancels the drop frame mode setting.
[STX] CDN [ETX]	[STX] CDN [ETX]	Makes the drop frame mode setting valid.
[STX] CHM:m [ETX]	[STX] CHM [ETX]	Sets 12-/24-hour mode for the CTL display.
[STX] CLP:data [ETX]	[STX] CLP [ETX]	Presets the CTL counter data (same as CCP).
[STX] CRN:m [ETX]	[STX] CRN [ETX]	Sets the signal to be regenerated when TCG is in regeneration mode.
[STX] CRR [ETX]	[STX] CRR [ETX]	Uses the TCG in the REC RUN mode.
[STX] CRT [ETX]	[STX] CRT [ETX]	Resets the CTL counter data.
[STX] CTC [ETX]	[STX] CTC [ETX]	Sets the mode in which time code data is to be used for the counter value.
[STX] CTF [ETX]	[STX] CTF [ETX]	Uses the TCG in the FREE RUN mode.
[STX] CTL [ETX]	[STX] CTL [ETX]	Sets the mode in which CTL data is to be used for the counter value.
[STX] CTM:m [ETX]	[STX] CTM [ETX]	Sets the TCG operation mode.
[STX] CTP [ETX]	[STX] CTP [ETX]	Uses the TCG in the preset mode.
[STX] CTR [ETX]	[STX] CTR [ETX]	Uses the TCG in the regeneration mode.
[STX] CTS:data [ETX]	[STX] CTS [ETX]	Presets the TCG data.
[STX] CUS:data [ETX]	[STX] CUS [ETX]	Presets the user's bit data.
[STX] CVP:data [ETX]	[STX] CVP [ETX]	Specifies the line where the external VITC is to be inserted.

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• Display control commands

Sends data of computer	Return data from VTR	Description of command
[STX] DFC:m [ETX]	[STX] DFC [ETX]	Sets the display mode of the display counter.

• Edit control commands

Sends data of computer	Return data from VTR	Description of command
[STX] EAB:m [ETX]	[STX] EAB [ETX]	Sets the auto back recording.
[STX] EAD:m [ETX]	[STX] EAD [ETX]	AUDIO INSERT PAUSE
[STX] EIN [ETX]	[STX] EIN [ETX]	VIDEO INSERT PAUSE
[STX] EFE:data [ETX]	[STX] EFE [ETX]	FIRST EDIT

• Media operation control commands

Sends data of computer	Return data from VTR	Description of command
[STX] HRE:m [ETX]	[STX] HRE [ETX]	Sets the VTR's operation mode at the tape end (when recording).
[STX] HTE:m [ETX]	[STX] HTE [ETX]	Sets the VTR's operation mode at the tape end (at all times other than recording).
[STX] HTI:m [ETX]	[STX] HTI [ETX]	Sets the VTR's operation mode when the tape is inserted.

• Input/output control commands

Sends data of computer	Return data from VTR	Description of command
[STX] IEV:data [ETX]	[STX] IEV [ETX]	Switches between E-E and V-V output. E-E: Electric modulation to electric playback V-V: VTR to VTR recording

RS-232C

• Operation control commands

Sends data of computer	Return data from VTR	Description of command
[STX] OAF [ETX]	[STX] OAF [ETX]	Advances frames in the forward direction.
[STX] OAR [ETX]	[STX] OAR [ETX]	Advances frames in the reverse direction.
[STX] OBF [ETX]	[STX] OBF [ETX]	STANDBY OFF
[STX] OBN [ETX]	[STX] OBN [ETX]	STANDBY ON
[STX] OEJ [ETX]	[STX] OEJ [ETX]	EJECT
[STX] OFF [ETX]	[STX] OFF [ETX]	FAST FORWARD
[STX] OPA [ETX]	[STX] OPA [ETX]	PAUSE
[STX] OPL [ETX]	[STX] OPL [ETX]	PLAY
[STX] OPR [ETX]	[STX] OPR [ETX]	REVERSE PLAY
[STX] OPT:data [ETX]	[STX] OPT [ETX]	Plays the tape back to the designated position (same as SPT).
[STX] ORC [ETX]	[STX] ORC [ETX]	RECORD
[STX] ORP [ETX]	[STX] ORP [ETX]	RECORD PAUSE
[STX] ORW [ETX]	[STX] ORW [ETX]	REWIND
[STX] OSD [ETX]	[STX] OSD [ETX]	SHUTTLE SPEED DOWN
[STX] OSF:n [ETX]	[STX] OSF [ETX]	SHUTTLE FORWARD
[STX] OSL [ETX]	[STX] OSL [ETX]	Starts slow playback.
[STX] OSP [ETX]	[STX] OSP [ETX]	STOP
[STX] OSR:n [ETX]	[STX] OSR [ETX]	SHUTTLE REVERSE
[STX] OSU [ETX]	[STX] OSU [ETX]	SHUTTLE SPEED UP
[STX] OTE:m [ETX]	[STX] OTE [ETX]	Selects E-E output and V-V output.

RS-232C

• Query control commands

Sends data of computer	Return data from VTR	Description of command
[STX] OAL [ETX]	[STX] ALV0 [ETX]	Queries the address level.
[STX] QAO [ETX]	[STX] AOm [ETX]	Queries the audio output channels.
[STX] QCA [ETX]	[STX] CUPdata [ETX]	Queries the user's bit data which was preset in the TCG.
[STX] QCB [ETX]	[STX] CUSdata [ETX]	Queries the user's bit data of the TCG.
[STX] QCC [ETX]	[STX] CCPdata [ETX]	Queries the counter data (same as QCD).
[STX] QCD [ETX]	[STX] CDdata [ETX]	Queries the counter data (same as QCC).
[STX] QCE [ETX]	[STX] CTedata [ETX]	Queries the TCG preset data.
[STX] QCF [ETX]	[STX] CDm [ETX]	Queries the drop frame mode.
[STX] QCM [ETX]	[STX] CHMm [ETX]	Queries the 12-/24-hour mode for the CTL display.
[STX] QCP [ETX]	[STX] CVPdata [ETX]	Queries the line where the VITC signal is to be inserted.
[STX] QCR [ETX]	[STX] CRNm [ETX]	Queries the signal to be regenerated when the TCG is in the regeneration mode.
[STX] QCS [ETX]	[STX] CTSdata [ETX]	Queries the TCG data.
[STX] QCT [ETX]	[STX] CTdata [ETX]	Queries the TCG mode.
[STX] QCU [ETX]	[STX] CURdata [ETX]	Queries the user's bit data of the TCR.
[STX] QCW [ETX]	[STX] CTMm [ETX]	Queries the TCG mode.
[STX] QCZ [ETX]	[STX] CTZm [ETX]	Queries the TCR read status.
[STX] QDF [ETX]	[STX] DFCm [ETX]	Queries the display mode of the counter display.
[STX] QEB [ETX]	[STX] EABm [ETX]	Queries the auto back recording.
[STX] QHC [ETX]	[STX] HCMdata [ETX]	Queries the cassette tape information.
[STX] QHE [ETX]	[STX] HTEm [ETX]	Sets the VTR's operation mode at the tape end (at all times other than recording).
[STX] QHI [ETX]	[STX] HTIm [ETX]	Queries the tape insertion mode.
[STX] QHR [ETX]	[STX] HTRdata [ETX]	Queries the remaining tape amount.
[STX] QHT [ETX]	[STX] HREm [ETX]	Sets the VTR's operation mode at the tape end (when recording).
[STX] QIC [ETX]	[STX] I [ETX]	Queries the product area classification code.
[STX] QID [ETX]	[STX] data [ETX]	Queries the equipment's ID code.
[STX] QIE [ETX]	[STX] IEVdata [ETX]	Queries the E-E output and V-V output.

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• Query control commands

Sends data of computer	Return data from VTR	Description of command
[STX] QLH:m [ETX]	[STX] LHRdata [ETX]	Queries the hours meter.
[STX] QOT [ETX]	[STX] OTEm [ETX]	Queries the E-E output and V-V output.
[STX] QOP [ETX]	[STX] data [ETX]	Queries the VTR's operation mode.
[STX] QOD:d1d2 [ETX]	[STX] OASdata [ETX]	Queries the operation modes.
[STX] QOS [ETX]	[STX] OPSdata [ETX]	Queries the operation modes.
[STX] QRA [ETX]	[STX] RAOm [ETX]	Queries the ACK (Acknowledge) code response setting.
[STX] QRS [ETX]	[STX] RSEm [ETX]	Queries the search end mode.
[STX] QRV:m [ETX]	[STX] VERdata [ETX]	Queries the software program version.
[STX] QSM [ETX]	[STX] SMMm [ETX]	Queries the memory mode.
[STX] QSY [ETX]	[STX] SMILPdata [ETX]	Queries the memory in data.
[STX] QSP:m [ETX]	[STX] SMPdata [ETX]	Queries the repeat position.
[STX] QTT [ETX]	[STX] TSTdata [ETX]	Queries the standby off timer setting.
[STX] QVI [ETX]	[STX] Vim [ETX]	Queries the INPUT SELECT switch position.
[STX] QVM [ETX]	[STX] VMDm [ETX]	Queries the video mode setting.

• Communication control commands

Sends data of computer	Return data from VTR	Description of command
[STX] RAN [ETX]	[STX] RAN [ETX]	Makes the ACK (Acknowledge) code return function valid.
[STX] RAF [ETX]	[STX] RAF [ETX]	Cancels the ACK (Acknowledge) code return function.
[STX] RCK [ETX]	[STX] RCK [ETX]	Checks the communication line.
[STX] RSE:m [ETX]	[STX] RSE [ETX]	Sets the search end mode.

● Searches control commands

Sends data of computer	Return data from VTR	Description of command
[STX] SCP:data [ETX]	[STX] SCP [ETX]	Searches the counter value and play.
[STX] SCS:data [ETX]	[STX] SCS [ETX]	Searches the counter value and sets to still picture (same as SRS).
[STX] SMI:data [ETX]	[STX] SMI [ETX]	Sets the memory search data.
[STX] SMM:m [ETX]	[STX] SMM [ETX]	Sets the memory mode.
[STX] SMP:data [ETX]	[STX] SMP [ETX]	Specifies the repeat position.
[STX] SMS [ETX]	[STX] SMS [ETX]	Searches the memory data.
[STX] SPT:data [ETX]	[STX] SPT [ETX]	Plays the tape back to the designated position (same as OPT).
[STX] SRS:data [ETX]	[STX] SRS [ETX]	Searches the counter value and sets to still picture (same as SCS).
[STX] SUB:data [ETX]	[STX] SUB [ETX]	Searches the user's bit.

● Timer control commands

Sends data of computer	Return data from VTR	Description of command
[STX] TST:data [ETX]	[STX] TST [ETX]	Sets the standby off timer.

■ Audio control commands

Sends data of computer	Return data from VTR	Description of command
[STX] AOC:m [ETX] Parameters m = 1: CH1 2: CH2 3: CH3 4: CH4 5: CH1 & CH2 6: CH3 & CH4 7: CH1+3 & CH2+4	[STX] AOC [ETX]	Sets the audio signal output channel/s. Playback output is possible for CH3 and CH4 when audio signals for 4 channels have been recorded on a DV format tape. <Note> This command is ignored while a search control command is being processed.

■ Counter control commands

Sends data of computer	Return data from VTR	Description of command
[STX] CCP:data [ETX] Parameters data = ghmmssff g = Blank: With a positive value - sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames	[STX] CCP [ETX]	Presets the designated counter value on the CTL counter. The value will be corrected as follows if the non-drop frame preset value has been set while the drop frame mode is established. 00:01:00:00 → 00:00:59:28 00:01:00:01 → 00:00:59:29 <Note> This command is ignored while a search control command is being processed or while the tape is being ejected.
[STX] CDF [ETX]	[STX] CDF [ETX]	Disables the drop frame mode setting. CTL and the time code are set to the non-drop frame mode. The non-drop frame is enabled for the time code when it is being recorded. <Note> This command is ignored while a search control command is being processed, during recording and in the INSERT mode.
[STX] CDN [ETX]	[STX] CDN [ETX]	Enables the drop frame mode setting. CTL and the time code are set to the drop frame mode. The drop frame is enabled for the time code when it is being recorded. <Note> This command is ignored while a search control command is being processed, during recording and in the INSERT mode.
[STX] CHM:m [ETX] Parameters m = 1: 12-hour mode 2: 24-hour mode	[STX] CHM [ETX]	Sets the CTL display to the 12-hour mode or 24-hour mode. <Note> This command is ignored while a search control command is being processed.

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■ Counter control commands

Sends data of computer	Return data from VTR	Description of command
[STX] CLP:data [ETX] Parameters data = ghmmssff g = Blank: With a positive value - sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames	[STX] CLP [ETX]	Presets the designated counter value on the CTL counter. The value will be corrected as follows if the non-drop frame preset value has been set while the drop frame mode is established. 00:01:00:00 → 00:00:59:28 00:01:00:01 → 00:00:59:29 <Note> This command is ignored while a search control command is being processed or while the tape is being ejected.
[STX] CRN:m [ETX] Parameters m = 0: TC & UB 1: TC 2: UB	[STX] CRN [ETX]	Sets the signal to be regenerated when the TCG (time code generator) is set to the regeneration mode. <Note> This command is ignored while a search control command is being processed.
[STX] CRR [ETX]	[STX] CRR [ETX]	Uses the TCG in the REC RUN mode. The TCG counts up during recording. The default value can be set using the CTS command. <Note> This command is ignored while a search control command is being processed, during recording and in the INSERT mode.
[STX] CRT [ETX]	[STX] CRT [ETX]	Resets the CTL counter data. <Note> This command is ignored while a search control command is being processed.
[STX] CTC [ETX]	[STX] CTC [ETX]	Uses the reference data for searching and for the display mode of the counter display as the time code data. <Note> This command is ignored while a search control command is being processed.
[STX] CTF [ETX]	[STX] CTF [ETX]	Uses the TCG in the FREE RUN mode. The TCG continues to count up at all times regardless of the mode. The default value can be set using the CTS command. The TCG starts counting up upon completion of the settings and when the VTR's power is turned back on. <Note> This command is ignored while a search control command is being processed, during recording and in the INSERT mode.
[STX] CTL [ETX]	[STX] CTL [ETX]	Uses the reference data for searching and for the display mode of the counter display as the CTL data. <Note> This command is ignored while a search control command is being processed.
[STX] CTM:m [ETX] Parameters m = 0: REC RUN mode 1: FREE RUN mode 2: Regeneration mode 3: External VITC mode	[STX] CTM [ETX]	Sets the mode used by the TCG. <Note> This command is ignored while a search control command is being processed, during recording and in the INSERT mode.

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■ Counter control commands

Sends data of computer	Return data from VTR	Description of command
[STX] CTP [ETX]	[STX] CTP [ETX]	Uses the TCG in the preset mode. The TCG starts counting up in the REC RUN mode upon completion of the settings. <Note> This command is ignored while a search control command is being processed, during recording and in the INSERT mode.
[STX] CTR [ETX]	[STX] CTR [ETX]	Uses the TCG in the regeneration mode. <Note> This command is ignored while a search control command is being processed, during recording and in the INSERT mode.
[STX] CTS:data [ETX] Parameters data = hhmmssff hh = 00~23: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames	[STX] CTS [ETX]	Presets the TCG data. The value will be corrected as follows if the non-drop frame preset value has been set while the drop frame mode is established. 00:01:00:00 → 00:00:59:28 00:01:00:01 → 00:00:59:29 Error code ER001 is returned from the VTR when the TCG is used in the regeneration mode or external VITC mode. <Note> This command is ignored while a search control command is being processed.
[STX] CUS:data [ETX] Parameters data = U7U6U5U4U3U2U1U0 The input user bit data is set in ASCII code. UB data: Binary 4BIT×8 ↓ ASCII code: 0~9, A~F	[STX] CUS [ETX]	Presets the user's bit data in the TCG. Error code ER001 is returned from the VTR when the TCG is used in the regeneration mode or external VITC mode. <Note> This command is ignored while a search control command is being processed.
[STX] CVP:data [ETX] Parameters data = ppqq pp = 10~20: Insertion line 1 qq = 10~20: Insertion line 2 pp ≠ qq (the same value cannot be designated for both pp and qq)	[STX] CVP [ETX]	Specifies two lines where the external VITC signal is to be inserted. <Note> This command is ignored while a search control command is being processed, during recording and in the INSERT mode.

■ Display control commands

Sends data of computer	Return data from VTR	Description of command
[STX] DFC:m [ETX] Parameters m = C: CTL mode T: TC mode U: UB mode R: REMAIN mode	[STX] DFC [ETX]	Sets the display mode of the counter display and the reference data for searching. CTL data reference: CTL mode TC data reference: TC mode, UB mode, REMAIN mode <Note> This command is ignored while a search control command is being processed.

■ Edit control commands

Sends data of computer	Return data from VTR	Description of command
[STX] EAB:m [ETX] Parameters m = N: AUTO BACK ON F: AUTO BACK OFF	[STX] EAB [ETX]	Sets whether auto back recording is to be performed to ensure frame to frame continuity. <Note> This command is ignored while a search control command is being processed and during auto back.
[STX] EAD:m [ETX] Parameters m = 0: CH1 & CH2 1: CH1 2: CH2 No parameter: CH1 & CH2	[STX] EAD [ETX]	Sets the VTR to the AUDIO INSERT PAUSE mode. When the VTR is in the VIDEO INSERT PAUSE mode, the command sets it to the AUDIO/VIDEO INSERT PAUSE mode. When it is in the REC INHIBIT mode, error code ER001 is returned from the VTR and the VTR is set to the STOP mode. <Note> This command can be accepted when the VTR is in the PLAY PAUSE mode or STILL mode.
[STX] EIN [ETX]	[STX] EIN [ETX]	Sets the VTR to the VIDEO INSERT PAUSE mode. When the VTR is in the AUDIO INSERT PAUSE mode, the command sets it to the AUDIO/VIDEO INSERT PAUSE mode. When it is in the REC INHIBIT mode, error code ER001 is returned from the VTR and the VTR is set to the STOP mode. <Note> This command can be accepted when the VTR is in the PLAY PAUSE mode or STILL mode.
[STX] EFE:data [ETX] Parameters data = wghmmssff w = M: Mode for recording for 26 seconds E: Mode for recording as far as the tape end ghmmssff = Reference point during editing (recording start point) • When the CTL data is to be used as the reference g = Blank: With a positive value - sign: With a negative value h = 0 ~ 9: Hours mm = 00 ~ 59: Minutes ss = 00 ~ 59: Seconds ff = 00 ~ 29: Frames • When the TC data is to be used as the reference gh = 00 ~ 23: Hours mm = 00 ~ 59: Minutes ss = 00 ~ 59: Seconds ff = 00 ~ 29: Frames	[STX] EFE [ETX]	Initiates first edit (recording to prepare the tape to be used for editing). In order to conduct editing with the position designated by the parameter as the reference point for editing, TC or CTL is preset using the value 23 seconds before the reference point, and the black burst video signal and muted audio signals are recorded for 26 seconds or until the tape end. If the OSP (STOP) command has been issued during operation, error code ER123 will be returned from the VTR which is then set to the STOP mode. If the VTR's operation mode has been changed by operating the controls on its front panel, error code ER121 will be returned from the VTR which is then set to the STOP mode. If the tape end position is reached during operation, error code ER120 will be returned from the VTR which is then set to the STOP mode. <Note> This command is ignored while a search control command is being processed and in any of the following modes. EJECT, REC, REC PAUSE, INSERT, INSERT PAUSE

<Note>

Make the menu item changes listed below when performing insert editing or assemble editing. If these changes are not made, the editing operations may not be conducted properly.

Menu item	Setting	Setting command
AUTO BACK	ON	EAB:N
TC MODE	I-REG	CTM:2
TCG REGEN	TC & UB	CRN:0
MEMORY MODE	OFF	SMM:F
STILL TIMER	2 min	TST:0200

■ Media operation control commands

Sends data of computer	Return data from VTR	Description of command
[STX] HRE:m [ETX] Parameters m = S: STOP R: REWIND E: EJECT M: REWIND and EJECT	[STX] HRE [ETX]	Sets the VTR's operation mode when the tape end position is reached during recording. <Note> This command is ignored while a search control command is being processed.
[STX] HTE:m [ETX] Parameters m = S: STOP R: REWIND E: EJECT M: REWIND and EJECT	[STX] HTE [ETX]	Sets the VTR's operation mode when the tape end position is reached during playback. <Note> This command is ignored while a search control command is being processed.
[STX] HTI:m [ETX] Parameters m = S: STOP W: REWIND P: PLAY M: PLAY PAUSE	[STX] HTI [ETX]	Sets the VTR's operation mode when the tape is inserted. <Note> This command is ignored while a search control command is being processed.

■ Input/output control commands

Sends data of computer	Return data from VTR	Description of command
[STX] IEV:data [ETX] Parameters data = m1m2 m1 = 0 ~ F: Designates the data of bit 7 to bit 4. m2 = 0 ~ F: Designates the data of bit 3 to bit 0.	[STX] IEV [ETX]	Forcibly switches to the E-E (electric modulation to electric playback) output. When the V-V (VTR to VTR recording) output is the picture output status, it is forcibly switched to the E-E output. The forced E-E output is released and the normal status is restored by IEV:00. <Note> This command is ignored while a search control command is being processed.

Parameter	m1 (HEX display)				m2 (HEX display)			
Bits supported	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
Switching data	0	0	0	0	AUDIO CH1	AUDIO CH2	VIDEO	TC

■ Operation control commands

Sends data of computer	Return data from VTR	Description of command
[STX] OAF [ETX]	[STX] OAF [ETX]	Advances the tape frame by frame in the forward direction.
[STX] OAR [ETX]	[STX] OAR [ETX]	Advances the tape frame by frame in the reverse direction.
[STX] OBF [ETX]	[STX] OBF [ETX]	Sets the VTR to the standby OFF mode. <Note> This command can be accepted when the VTR is in the STOP mode, PLAY mode or STILL mode.
[STX] OBN [ETX]	[STX] OBN [ETX]	Sets the VTR to the standby ON (STOP) mode. <Note> This command can be accepted when the VTR is in the standby OFF mode.
[STX] OEJ [ETX]	[STX] OEJ [ETX]	Ejects the cassette tape.
[STX] OFF [ETX]	[STX] OFF [ETX]	Fast forwards the tape.
[STX] OPA [ETX]	[STX] OPA [ETX]	Sets the VTR to the pause mode (REC PAUSE or PLAY PAUSE) or the pause release mode (REC or PLAY).
[STX] OPL [ETX]	[STX] OPL [ETX]	Plays back the tape.
[STX] OPR [ETX]	[STX] OPR [ETX]	Plays the tape (at the shuttle -1x speed) in the reverse direction.
[STX] OPT: data [ETX]	[STX] OPT [ETX]	Plays back the tape to the position designated by the parameter. Upon completion of playback, the VTR is set to the STILL mode. If the designated position is before the current position, the tape is not played back, and the VTR is set to the STILL mode. When the OSP (STOP) command or OEJ (tape EJECT) command is issued during operation, error code ER123 is returned from the VTR. If the VTR's operation mode has been changed by operating the controls on its front panel, error code ER121 will be returned from the VTR. If the tape end position is reached during operation, error code ER120 will be returned from the VTR. <Note> This command is ignored while a search control command is being processed and in any of the following modes. <div>EJECT, REC, REC PAUSE, INSERT, INSERT PAUSE</div>
Parameters data = wghmmssff • When the CTL data is to be used as the reference w = L : CTL data reference g = Blank: With a positive value - sign: With a negative value h = 0 ~ 9 : Hours mm = 00 ~ 59 : Minutes ss = 00 ~ 59 : Seconds ff = 00 ~ 29 : Frames • When the TC data is to be used as the reference w = S : TC data reference gh = 00 ~ 23 : Hours mm = 00 ~ 59 : Minutes ss = 00 ~ 59 : Seconds ff = 00 ~ 29 : Frames		
[STX] ORC [ETX]	[STX] ORC [ETX]	Sets the VTR to the recording mode. When the VTR is in the REC INHIBIT mode, error code ER001 will be returned from the VTR which is then set to the STOP mode.
[STX] ORP [ETX]	[STX] ORP [ETX]	Sets the VTR to the REC PAUSE mode. When the VTR is in the REC INHIBIT mode, error code ER001 will be returned from the VTR which is then set to the STOP mode.
[STX] ORW [ETX]	[STX] ORW [ETX]	Rewinds the tape.

<Note>

Refer to the RS-232 mode transition table (on pages 71, 72) for the conditions under which the operation control commands are accepted.

■ Operation control commands

Sends data of computer	Return data from VTR	Description of command
[STX] OSD [ETX]	[STX] OSD [ETX]	Controls the tape playback speed. Set the VTR to the STILL PAUSE mode using the OSL command, and send the OSD command. Each time the OSD command is sent, the playback speed shifts by one setting in the direction of the arrows below. If the lowest playback speed is already set, the speed does not shift any further, and error code ER001 is returned from the VTR. <div>In the case of a DVCPRO format tape +32.0 → +16.0 → +9.5 → +4.1 → +1.85 → +1 → +0.43 → +0.3 → +0.1 → +0.03 → STILL → -0.03 → -0.1 → -0.3 → -0.43 → -1 → -1.85 → -4.1 → -9.5 → -16.0 → -32.0</div> <div>In the case of a DV format tape +32.0 → +16.0 → +9.5 → +3.1 → +1.85 → +1 → +0.5 → +0.3 → +0.1 → +0.03 → STILL → -0.03 → -0.1 → -0.3 → -0.5 → -1 → -1.85 → -3.1 → -9.5 → -16.0 → -32.0</div>
[STX] OSF:n [ETX] Parameters • In the case of a DVCPRO format tape n = 0: STILL 6: ×1.85 1: ×0.03 7: ×4.1 2: ×0.1 8: ×9.5 3: ×0.3 9: ×16.0 4: ×0.43 A: ×32.0 5: ×1 • In the case of a DV format tape n = 0: STILL 6: ×1.85 1: ×0.03 7: ×3.1 2: ×0.1 8: ×9.5 3: ×0.3 9: ×16.0 4: ×0.5 A: ×32.0 5: ×1	[STX] OSF [ETX]	Sets the tape playback speed in the forward direction.
[STX] OSL [ETX]	[STX] OSL [ETX]	Sets the VTR to the STILL PAUSE mode. The OSD command and OSU command are accepted after the VTR has been set to the STILL PAUSE mode by the OSL command.
[STX] OSP [ETX]	[STX] OSP [ETX]	Sets the VTR to the STOP mode. When the VTR is in the STANDBY OFF mode, it is set to STANDBY ON.

<Note>

Refer to the RS-232 mode transition table (on pages 71, 72) for the conditions under which the operation control commands are accepted.

■ Operation control commands

Sends data of computer	Return data from VTR	Description of command
[STX] OSR:n [ETX] Parameters • In the case of a DVCPRO format tape n = 0: STILL 6: ×1.85 1: ×0.03 7: ×4.1 2: ×0.1 8: ×9.5 3: ×0.3 9: ×16.0 4: ×0.43 A: ×32.0 5: ×1 • In the case of a DV format tape n = 0: STILL 6: ×1.85 1: ×0.03 7: ×3.1 2: ×0.1 8: ×9.5 3: ×0.3 9: ×16.0 4: ×0.5 A: ×32.0 5: ×1	[STX] OSR [ETX]	Sets the tape playback speed in the reverse direction.
[STX] OSU [ETX]	[STX] OSU [ETX]	Controls the tape playback speed. Set the VTR to the STILL PAUSE mode using the OSL command, and send the OSU command. Each time the OSU command is sent, the playback speed shifts by one setting in the direction of the arrows below. If the highest playback speed is already set, the speed does not shift any further, and error code ER001 is returned from the VTR. <div> In the case of a DVCPRO format tape -32.0 → -16.0 → -9.5 → -4.1 → -1.85 → -1 → -0.43 → -0.3 → -0.1 → -0.03 → STILL → +0.03 → +0.1 → +0.3 → +0.43 → +1 → +1.85 → +4.1 → +9.5 → +16.0 → +32.0 </div> <div> In the case of a DV format tape -32.0 → -16.0 → -9.5 → -3.1 → -1.85 → -1 → -0.5 → -0.3 → -0.1 → -0.03 → STILL → +0.03 → +0.1 → +0.3 → +0.5 → +1 → +1.85 → +3.1 → +9.5 → +16.0 → +32.0 </div>
[STX] OTE:m [ETX] Parameters m = E: E-E (Electric modulation to Electric play back) m = T: V-V (VTR to VTR recording)	[STX] OTE [ETX]	Selects whether to set E-E output or V-V output when the VTR is in the STOP mode, FF mode or REW mode.

<Note>

Refer to the RS-232 mode transition table (on pages 71, 72) for the conditions under which the operation control commands are accepted.

■ Query control commands

Sends data of computer	Return data from VTR	Description of command
[STX] QAL [ETX]	[STX] ALV0 [ETX]	Supports only address level 0 of the MIS standards.
[STX] QAO [ETX]	[STX] AOm [ETX] m = 1: CH1 2: CH2 3: CH3 4: CH4 5: CH1 & CH2 6: CH3 & CH4 7: CH1+3 & CH2+4	Queries the audio signal output channel or channels.
[STX] QCA [ETX]	[STX] CUPdata [ETX] data = U7U6U5U4U7U3U2U1U0	Queries the user's bit data which was preset in the TCG.
[STX] QCB [ETX]	[STX] CUSdata [ETX] data = U7U6U5U4U7U3U2U1U0	Queries the user's bit data of the TCG.
[STX] QCC [ETX]	[STX] CCPdata [ETX] data = ghmmss • In the case of CTL data g = Blank: With a positive value - sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds • In the case of TC data gh = 00~23: Hours mm = 00~59: Minutes ss = 00~59: Seconds	Queries the current counter data (second increments). The following data is returned from the VTR, depending on the mode which appears on the counter display. CTL mode: CTL data TC mode, UB mode, REMAIN mode: TC data
[STX] QCD [ETX]	[STX] CDdata [ETX] data = fwhghmmssff • In the case of CTL data f = F: Fine C: Coarse w = S: Search STILL P: Search PLAY g = Blank: With a positive value - sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames • In the case of TC data f = F: Fine C: Coarse w = S: Search STILL P: Search PLAY gh = 00~23: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames	Queries the current counter data. The following data is returned from the VTR, depending on the mode which appears on the counter display. CTL mode: CTL data TC mode, UB mode, REMAIN mode: TC data

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■ Query control commands

Sends data of computer	Return data from VTR	Description of command
[STX] QCE [ETX]	[STX] CTedata [ETX] data = hhmmssff hh = 00 ~ 23: Hours mm = 00 ~ 59: Minutes ss = 00 ~ 59: Seconds ff = 00 ~ 29: Frames	Queries the time data which was preset in the TCG.
[STX] QCF [ETX]	[STX] CDm [ETX] m = N: Drop frame mode F: Non-drop frame mode	Queries the drop frame mode.
[STX] QCM [ETX]	[STX] CHMm [ETX] m = 1: 12-hour mode 2: 24-hour mode	Queries whether the CTL display is in the 12-hour mode or 24-hour mode.
[STX] QCP [ETX]	[STX] CVPdata [ETX] data = ppqq pp = Insertion line 1 qq = Insertion line 2	Queries the setting of the two lines in which the external VITC signal is to be inserted.
[STX] QCR [ETX]	[STX] CRNm [ETX] m = 0: TC & UB 1: TC 2: UB	Queries the REGEN (regeneration) signal when the TCG (time code generator) is set to the regeneration mode.
[STX] QCS [ETX]	[STX] CTSdata [ETX] data = hhmmssff hh = 00 ~ 23: Hours mm = 00 ~ 59: Minutes ss = 00 ~ 59: Seconds ff = 00 ~ 29: Frames	Queries the TCG's time data.
[STX] QCT [ETX]	[STX] CTdata [ETX] data = mm mm = FR: Regeneration mode RP: REC RUN mode FP: FREE RUN mode VR: External VITC mode	Queries the mode in which the TCG is to be used.
[STX] QCU [ETX]	[STX] CURdata [ETX] data = U7U6U5U4U3U2U1U0	Queries the user's bit data of the TCR.
[STX] QCW [ETX]	[STX] CTMm [ETX] m = 0: REC RUN mode 1: FREE RUN mode 2: Regeneration mode 3: External VITC mode	Queries the mode in which the TCG is to be used.
[STX] QCZ [ETX]	[STX] CTZm [ETX] m = 0: Read NG 1: Read OK	Queries the TCR read status.
[STX] QDF [ETX]	[STX] DFCm [ETX] m = C: CTL mode T: TC mode U: UB mode R: REMAIN mode	Queries the display mode of the counter display.

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■ Query control commands

Sends data of computer	Return data from VTR	Description of command
[STX] QEB [ETX]	[STX] EABm [ETX] m = N: AUTO BACK ON F: AUTO BACK OFF	Queries the auto back recording setting.
[STX] QHC [ETX]	[STX] HCMdata [ETX] data = C1C2C3C4 C1 = I: Cassette in O: Cassette out C2 = E: Recording enabled D: Recording disabled N: No tape C3 = S: S size cassette M: M size cassette L: L size cassette N: No tape C4 = D: DV format P: DVCPRO format C: DVCAM format N: No tape	Queries the cassette tape information.
[STX] QHE [ETX]	[STX] HTEm [ETX] m = S: STOP R: REWIND E: EJECT M: REWIND and EJECT	Queries the VTR's operation mode when the tape end position has been reached during any operation except recording.
[STX] QHI [ETX]	[STX] HTIm [ETX] m = S: STOP W: REWIND P: PLAY M: PLAY PAUSE	Queries the VTR's operation mode when the tape has been inserted.
[STX] QHR [ETX]	[STX] HTRdata [ETX] data = hhmmss hh = 00 ~ 23: Hours mm = 00 ~ 59: Minutes ss = Fixed at 00: Seconds	Queries the amount of remaining tape. If this is not determined or the tape has been ejected, data = FFFFFFFF is returned.
[STX] QHT [ETX]	[STX] HREm [ETX] m = S: STOP R: REWIND E: EJECT M: REWIND and EJECT	Queries the VTR's operation mode when the tape end position is reached during recording.
[STX] QIC [ETX]	[STX] 1 [ETX]	Queries the product classification code. This unit returns tape equipment "1."
[STX] QID [ETX]	[STX] data [ETX] data = AJ-D250 AJ-D230	Queries the equipment's ID code. The ID code corresponding to the setting of Setup Menu No. 205 "232C ID SEL" is returned. (See page 30) With the factory settings, tape equipment "AJ-D250" is returned.

■ Query control commands

Sends data of computer	Return data from VTR	Description of command
[STX] QIE [ETX]	[STX] IEVdata [ETX] data = m1m2 m1 = 0~F: Designates the data of bit 7 to bit 4 m2 = 0~F: Designates the data of bit 3 to bit 0.	Queries the forced E-E output setting.
Parameter	m1 (HEX display)	m2 (HEX display)
Bits supported	BIT7 BIT6 BIT5 BIT4	BIT3 BIT2 BIT1 BIT0
Switching data	0 0 0 0	AUDIO CH1 AUDIO CH2 VIDEO TC
[STX] QLH.m [ETX] Parameters m = D: Cumulative drum rotation time T: Cumulative capstan rotation time No parameter: Cumulative drum rotation time (4 digits)	[STX] LHRdata [ETX] data = mhhhhh m = D: Drum T: Capstan hhhhh = 00000 ~ 99999: Cumulative rotation time • With no parameter The drum's cumulative rotation time is returned as a 4-digit value. data = hhhh hhhh = 0000 ~ 9999: Cumulative rotation time	Queries the current value of the hours meter.
[STX] QOT [ETX]	[STX] OTE.m [ETX] m = E: E-E (Electric modulation to Electric play back) m = T: V-V (VTR to VTR recording)	Queries whether to set to the E-E output or V-V output when the VTR is in the STOP mode, FF mode or REW mode.

■ Query control commands

Sends data of computer	Return data from VTR	Description of command
[STX] QOP [ETX]	[STX] data [ETX] data = OSP: STOP OEJ: EJECT OFF: FAST FORWARD ORW: REWIND OSF: SHUTTLE FORWARD OSR: SHUTTLE REVERSE OSS: STILL OPL: PLAY OPP: PLAY PAUSE ORC: REC ORP: REC PAUSE OBF: STANDBY OFF SCS: COUNTER SEARCH (STILL) SCP: COUNTER SEARCH (PLAY) SRS: COUNTER SEARCH (STILL) SUB: UB SEARCH SPT: PLAY to OPT: PLAY to SMS: MEMORY SEARCH EAD: AUDIO INSERT EAP: AUDIO INSERT PAUSE EIN: VIDEO INSERT EIP: VIDEO INSERT PAUSE EVI: AUDIO & VIDEO INSERT EVP: AUDIO & VIDEO INSERT PAUSE EFE: FIRST EDIT	Queries the VTR's operation mode. The current VTR mode is detected, and the status command is returned.
[STX] QOD:d1d2 [ETX] Parameters d1 = 0 ~ F: Designates the status data number. d2 = 0 ~ F: Designates the number of status data bytes.	[STX] OASdata [ETX] data = AD0AD1AD2AD3AD4AD5AD6AD7AD8 AD9AD10AD11AD12AD13AD14AD15AD16 AD17AD18AD19AD20AD21AD22AD23AD24 AD25AD26AD27AD28AD29AD30AD31AD32 AD33AD34AD35AD36AD37AD38AD39AD40 AD41AD42AD43AD44AD45AD46AD47AD48 AD49AD50AD51AD52AD53AD54AD55AD56 AD57AD58AD59AD60AD61AD62AD63AD64 AD65AD66AD67AD68AD69AD70AD71AD72 AD73AD74AD75AD76AD77AD78AD79AD80 AD81AD82AD83AD84AD85AD86AD87AD88 AD89AD90AD91AD92AD93AD94AD95AD96 AD97AD98AD99AD100AD101AD102AD103 AD104AD105AD106AD107AD108AD109AD110 AD111AD112AD113AD114AD115AD116AD117 AD118AD119AD120AD121AD122AD123AD124 AD125AD126AD127AD128AD129AD130AD131 AD132AD133AD134AD135AD136AD137AD138 AD139AD140AD141AD142AD143AD144AD145 AD146AD147AD148AD149AD150AD151AD152 AD153AD154AD155AD156AD157AD158AD159 AD160AD161AD162AD163AD164AD165AD166 AD167AD168AD169AD170AD171AD172AD173 AD174AD175AD176AD177AD178AD179AD180 AD181AD182AD183AD184AD185AD186AD187 AD188AD189AD190AD191AD192AD193AD194 AD195AD196AD197AD198AD199AD200AD201 AD202AD203AD204AD205AD206AD207AD208 AD209AD210AD211AD212AD213AD214AD215 AD216AD217AD218AD219AD220AD221AD222 AD223AD224AD225AD226AD227AD228AD229 AD230AD231AD232AD233AD234AD235AD236 AD237AD238AD239AD240AD241AD242AD243 AD244AD245AD246AD247AD248AD249AD250 AD251AD252AD253AD254AD255AD256AD257 AD258AD259AD260AD261AD262AD263AD264 AD265AD266AD267AD268AD269AD270AD271 AD272AD273AD274AD275AD276AD277AD278 AD279AD280AD281AD282AD283AD284AD285 AD286AD287AD288AD289AD290AD291AD292 AD293AD294AD295AD296AD297AD298AD299 AD300AD301AD302AD303AD304AD305AD306 AD307AD308AD309AD310AD311AD312AD313 AD314AD315AD316AD317AD318AD319AD320 AD321AD322AD323AD324AD325AD326AD327 AD328AD329AD330AD331AD332AD333AD334 AD335AD336AD337AD338AD339AD340AD341 AD342AD343AD344AD345AD346AD347AD348 AD349AD350AD351AD352AD353AD354AD355 AD356AD357AD358AD359AD360AD361AD362 AD363AD364AD365AD366AD367AD368AD369 AD370AD371AD372AD373AD374AD375AD376 AD377AD378AD379AD380AD381AD382AD383 AD384AD385AD386AD387AD388AD389AD390 AD391AD392AD393AD394AD395AD396AD397 AD398AD399AD400AD401AD402AD403AD404 AD405AD406AD407AD408AD409AD410AD411 AD412AD413AD414AD415AD416AD417AD418 AD419AD420AD421AD422AD423AD424AD425 AD426AD427AD428AD429AD430AD431AD432 AD433AD434AD435AD436AD437AD438AD439 AD440AD441AD442AD443AD444AD445AD446 AD447AD448AD449AD450AD451AD452AD453 AD454AD455AD456AD457AD458AD459AD460 AD461AD462AD463AD464AD465AD466AD467 AD468AD469AD470AD471AD472AD473AD474 AD475AD476AD477AD478AD479AD480AD481 AD482AD483AD484AD485AD486AD487AD488 AD489AD490AD491AD492AD493AD494AD495 AD496AD497AD498AD499AD500AD501AD502 AD503AD504AD505AD506AD507AD508AD509 AD510AD511AD512AD513AD514AD515AD516 AD517AD518AD519AD520AD521AD522AD523 AD524AD525AD526AD527AD528AD529AD530 AD531AD532AD533AD534AD535AD536AD537 AD538AD539AD540AD541AD542AD543AD544 AD545AD546AD547AD548AD549AD550AD551 AD552AD553AD554AD555AD556AD557AD558 AD559AD560AD561AD562AD563AD564AD565 AD566AD567AD568AD569AD570AD571AD572 AD573AD574AD575AD576AD577AD578AD579 AD580AD581AD582AD583AD584AD585AD586 AD587AD588AD589AD590AD591AD592AD593 AD594AD595AD596AD597AD598AD599AD600 AD601AD602AD603AD604AD605AD606AD607 AD608AD609AD610AD611AD612AD613AD614 AD615AD616AD617AD618AD619AD620AD621 AD622AD623AD624AD625AD626AD627AD628 AD629AD630AD631AD632AD633AD634AD635 AD636AD637AD638AD639AD640AD641AD642 AD643AD644AD645AD646AD647AD648AD649 AD650AD651AD652AD653AD654AD655AD656 AD657AD658AD659AD660AD661AD662AD663 AD664AD665AD666AD667AD668AD669AD670 AD671AD672AD673AD674AD675AD676AD677 AD678AD679AD680AD681AD682AD683AD684 AD685AD686AD687AD688AD689AD690AD691 AD692AD693AD694AD695AD696AD697AD698 AD699AD700AD701AD702AD703AD704AD705 AD706AD707AD708AD709AD710AD711AD712 AD713AD714AD715AD716AD717AD718AD719 AD720AD721AD722AD723AD724AD725AD726 AD727AD728AD729AD730AD731AD732AD733 AD734AD735AD736AD737AD738AD739AD740 AD741AD742AD743AD744AD745AD746AD747 AD748AD749AD750AD751AD752AD753AD754 AD755AD756AD757AD758AD759AD760AD761 AD762AD763AD764AD765AD766AD767AD768 AD769AD770AD771AD772AD773AD774AD775 AD776AD777AD778AD779AD780AD781AD782 AD783AD784AD785AD786AD787AD788AD789 AD790AD791AD792AD793AD794AD795AD796 AD797AD798AD799AD800AD801AD802AD803 AD804AD805AD806AD807AD808AD809AD810 AD811AD812AD813AD814AD815AD816AD817 AD818AD819AD820AD821AD822AD823AD824 AD825AD826AD827AD828AD829AD830AD831 AD832AD833AD834AD835AD836AD837AD838 AD839AD840AD841AD842AD843AD844AD845 AD846AD847AD848AD849AD850AD851AD852 AD853AD854AD855AD856AD857AD858AD859 AD860AD861AD862AD863AD864AD865AD866 AD867AD868AD869AD870AD871AD872AD873 AD874AD875AD876AD877AD878AD879AD880 AD881AD882AD883AD884AD885AD886AD887 AD888AD889AD890AD891AD892AD893AD894 AD895AD896AD897AD898AD899AD900AD901 AD902AD903AD904AD905AD906AD907AD908 AD909AD910AD911AD912AD913AD914AD915 AD916AD917AD918AD919AD920AD921AD922 AD923AD924AD925AD926AD927AD928AD929 AD930AD931AD932AD933AD934AD935AD936 AD937AD938AD939AD940AD941AD942AD943 AD944AD945AD946AD947AD948AD949AD950 AD951AD952AD953AD954AD955AD956AD957 AD958AD959AD960AD961AD962AD963AD964 AD965AD966AD967AD968AD969AD970AD971 AD972AD973AD974AD975AD976AD977AD978 AD979AD980AD981AD982AD983AD984AD985 AD986AD987AD988AD989AD990AD991AD992 AD993AD994AD995AD996AD997AD998AD999 AD1000AD1001AD1002AD1003AD1004AD1005 AD1006AD1007AD1008AD1009AD1010AD1011 AD1012AD1013AD1014AD1015AD1016AD1017 AD1018AD1019AD1020AD1021AD1022AD1023 AD1024AD1025AD1026AD1027AD1028AD1029 AD1030AD1031AD1032AD1033AD1034AD1035 AD1036AD1037AD1038AD1039AD1040AD1041 AD1042AD1043AD1044AD1045AD1046AD1047 AD1048AD1049AD1050AD1051AD1052AD1053 AD1054AD1055AD1056AD1057AD1058AD1059 AD1060AD1061AD1062AD1063AD1064AD1065 AD1066AD1067AD1068AD1069AD1070AD1071 AD1072AD1073AD1074AD1075AD1076AD1077 AD1078AD1079AD1080AD1081AD1082AD1083 AD1084AD1085AD1086AD1087AD1088AD1089 AD1090AD1091AD1092AD1093AD1094AD1095 AD1096AD1097AD1098AD1099AD1100AD1101 AD1102AD1103AD1104AD1105AD1106AD1107 AD1108AD1109AD1110AD1111AD1112AD1113 AD1114AD1115AD1116AD1117AD1118AD1119 AD1120AD1121AD1122AD1123AD1124AD1125 AD1126AD1127AD1128AD1129AD1130AD1131 AD1132AD1133AD1134AD1135AD1136AD1137 AD1138AD1139AD1140AD1141AD1142AD1143 AD1144AD1145AD1146AD1147AD1148AD1149 AD1150AD1151AD1152AD1153AD1154AD1155 AD1156AD1157AD1158AD1159AD1160AD1161 AD1162AD1163AD1164AD1165AD1166AD1167 AD1168AD1169AD1170AD1171AD1172AD1173 AD1174AD1175AD1176AD1177AD1178AD1179 AD1180AD1181AD1182AD1183AD1184AD1185 AD1186AD1187AD1188AD1189AD1190AD1191 AD1192AD1193AD1194AD1195AD1196AD1197 AD1198AD1199AD1200AD1201AD1202AD1203 AD1204AD1205AD1206AD1207AD1208AD1209 AD1210AD1211AD1212AD1213AD1214AD1215 AD1216AD1217AD1218AD1219AD1220AD1221 AD1222AD1223AD1224AD1225AD1226AD1227 AD1228AD1229AD1230AD1231AD1232AD1233 AD1234AD1235AD1236AD1237AD1238AD1239 AD1240AD1241AD1242AD1243AD1244AD1245 AD1246AD1247AD1248AD1249AD1250AD1251 AD1252AD1253AD1254AD1255AD1256AD1257 AD1258AD1259AD1260AD1261AD1262AD1263 AD1264AD1265AD1266AD1267AD1268AD1269 AD1270AD1271AD1272AD1273AD1274AD1275 AD1276AD1277AD1278AD1279AD1280AD1281 AD1282AD1283AD1284AD1285AD1286AD1287 AD1288AD1289AD1290AD1291AD1292AD1293 AD1294AD1295AD1296AD1297AD1298AD1299 AD1300AD1301AD1302AD1303AD1304AD1305 AD1306AD1307AD1308AD1309AD1310AD1311 AD1312AD1313AD1314AD1315AD1316AD1317 AD1318AD1319AD1320AD1321AD1322AD1323 AD1324AD1325AD1326AD1327AD1328AD1329 AD1330AD1331AD1332AD1333AD1334AD1335 AD1336AD1337AD1338AD1339AD1340AD1341 AD1342AD1343AD1344AD1345AD1346AD1347 AD1348AD1349AD1350AD1351AD1352AD1353 AD1354AD1355AD1356AD1357AD1358AD1359 AD1360AD1361AD1362AD1363AD1364AD1365 AD1366AD1367AD1368AD1369AD1370AD1371 AD1372AD1373AD1374AD1375AD1376AD1377 AD1378AD1379AD1380AD1381AD1382AD1383 AD1384AD1385AD1386AD1387AD1388AD1389 AD1390AD1391AD1392AD1393AD1394AD1395 AD1396AD1397AD1398AD1399AD1400AD1401 AD1402AD1403AD1404AD1405AD1406AD1407 AD1408AD1409AD1410AD1411AD1412AD1413 AD1414AD1415AD1416AD1417AD1418AD1419 AD1420AD1421AD1422AD1423AD1424AD1425 AD1426AD1427AD1428AD1429AD1430AD1431 AD1432AD1433AD1434AD1435AD1436AD1437 AD1438AD1439AD1440AD1441AD1442AD1443 AD1444AD1445AD1446AD1447AD1448AD1449 AD1450AD1451AD1452AD1453AD1454AD1455 AD1456AD1457AD1458AD1459AD1460AD1461 AD1462AD1463AD1464AD1465AD1466AD1467 AD1468AD1469AD1470AD1471AD1472AD1473 AD1474AD1475AD1476AD1477AD1478AD1479 AD1480AD1481AD1482AD1483AD1484AD1485 AD1486AD1487AD1488AD1489AD1490AD1491 AD1492AD1493AD1494AD1495AD1496AD1497 AD1498AD1499AD1500AD1501AD1502AD1503 AD1504AD1505AD1506AD1507AD1508AD1509 AD1510AD1511AD1512AD1513AD1514AD1515 AD1516AD1517AD1518AD1519AD1520AD1521 AD1522AD1523AD1524AD1525AD1526AD1527 AD1528AD1529AD1530AD1531AD1532AD1533 AD1534AD1535AD1536AD1537AD1538AD1539 AD1540AD1541AD1542AD1543AD1544AD1545 AD1546AD1547AD1548AD1549AD1550AD1551 AD1552AD1553AD1554AD1555AD1556AD1557 AD1558AD1559AD1560AD1561AD1562AD1563 AD1564AD1565AD1566AD1567AD1568AD1569 AD1570AD1571AD1572AD1573AD1574AD1575 AD1576AD1577AD1578AD1579AD1580AD1581 AD1582AD1583AD1584AD1585AD1586AD1587 AD1588AD1589AD1590AD1591AD1592AD1593 AD1594AD1595AD1596AD1597AD1598AD1599 AD1600AD1601AD1602AD1603AD1604AD1605 AD1606AD1607AD1608AD1609AD1610AD1611 AD1612AD1613AD1614AD1615AD1616AD1617 AD1618AD1619AD1620AD1621AD1622AD1623 AD1624AD1625AD1626AD1627AD1628AD1629 AD1630AD1631AD1632AD1633AD1634AD1635 AD1636AD1637AD1638AD1639AD1640AD1641 AD1642AD1643AD1644AD1645AD1646AD1647 AD1648AD1649AD1650AD1651AD1652AD1653 AD1654AD1655AD1656AD1657AD1658AD1659 AD1660AD1661AD1662AD1663AD1664AD1665 AD1666AD1667AD1668AD1669AD1670AD1671 AD1672AD1673AD1674AD1675AD1676AD1677 AD1678AD1679AD1680AD1681AD1682AD1683 AD1684AD1685AD1686AD1687AD1688AD1689 AD1690AD1691AD1692AD1693AD1694AD1695 AD1696AD1697AD1698AD1699AD1700AD1701 AD1702AD1703AD1704AD1705AD1706AD1707 AD1708AD1709AD1710AD1711AD1712AD1713 AD1714AD1715AD1716AD1717AD1718AD1719 AD1720AD1721AD1722AD1723AD1724AD1725 AD1726AD1727AD1728AD1729AD1730AD1731 AD1732AD1733AD1734AD1735AD1736AD1737 AD1738AD1739AD1740AD1741AD1742AD1743 AD1744AD1745AD1746AD1747AD1748AD1749 AD1750AD1751AD1752AD1753AD1754AD1755 AD1756AD1757AD1758AD1759AD1760AD1761 AD1762AD1763AD1764AD1765AD1766AD1767 AD1768AD1769AD1770AD1771AD1772AD1773 AD1774AD1775AD1776AD1777AD1778AD1779 AD1780AD1781AD1782AD1783AD1784AD1785 AD1786AD1787AD1788AD1789AD1790AD1791 AD1792AD1793AD1794AD1795AD1796AD1797 AD1798AD1799AD1800AD1801AD1802AD1803 AD1804AD1805AD1806AD1807AD1808AD1809 AD1810AD1811AD1812AD1813AD1814AD1815 AD1816AD1817AD1818AD1819AD1820AD1821 AD1822AD1823AD1824AD1825AD1826AD1827 AD1828AD1829AD1830AD1831AD1832AD1833 AD1834AD1835AD1836AD1837AD1838AD1839 AD1840AD1841AD1842AD1843AD1844AD1845 AD1846AD1847AD1848AD1849AD1850AD1851 AD1852AD1853AD1854AD1855AD1856AD1857 AD1858AD1859AD1860AD1861AD1862AD1863 AD1864AD1865AD1866AD1867AD1868AD1869 AD1870AD1871AD1872AD1873AD1874AD1875 AD1876AD1877AD1878AD1879AD1880AD1881 AD1882AD1883AD1884AD1885AD1886AD1887 AD1888AD1889AD1890AD1891AD1892AD1893 AD1894AD1895AD1896AD1897AD1898AD1899 AD1900AD1901AD1902AD1903AD1904AD1905 AD1906AD1907AD1908AD1909AD1910AD1911 AD1912AD1913AD1914AD1915AD1916AD1917 AD1918AD1919AD1920AD1921AD1922AD1923 AD1924AD1925AD1926AD1927AD1928AD1929 AD1930AD1931AD1932AD1933AD1934AD1935 AD1936AD1937AD1938AD1939AD1940AD1941 AD1942AD1943AD1944AD1945AD1946AD1947 AD1948AD1949AD1950AD1951AD1952AD1953 AD1954AD1955AD1956AD1957AD1958AD1959 AD1960AD1961AD1962AD1963AD1964AD1965 AD1966AD1967AD1968AD1969AD1970AD1971 AD1972AD1973AD1974AD1975AD1976AD1977 AD1978AD1979AD1980AD1981AD1982AD1983 AD1984AD1985AD1986AD1987AD1988AD1989 AD1990AD1991AD1992AD1993AD1994AD1995 AD1996AD1997AD1998AD1999AD2000AD2001 AD2002AD2003AD2004AD2005AD2006AD2007 AD2008AD2009AD2010AD2011AD2012AD2013 AD2014AD2015AD2016AD2017AD2018AD2019 AD2020AD2021AD2022AD2023AD2024AD2025 AD2026AD2027AD2028AD2029AD2030AD2031 AD2032AD2033AD2034AD2035AD2036AD2037 AD2038AD2039AD2040AD2041AD2042AD2043 AD2044AD2045AD2046AD2047AD2048AD2049 AD2050AD2051AD2052AD2053AD2054AD2055 AD2056AD2057AD2058AD2059AD2060AD2061 AD2062AD2063AD2064AD2065AD2066AD2067 AD2068AD2069AD2070AD2071AD2072AD2073 AD2074AD2075AD2076AD2077AD2078AD2079 AD2080AD2081AD2082AD2083AD2084AD2085 AD2086AD2087AD2088AD2089AD2090AD2091 AD2092AD2093AD2094AD2095AD2096AD2097 AD2098AD2099AD2100AD2101AD2102AD2103 AD2104AD2105AD2106AD2107AD2108AD2109 AD2110AD2111AD2112AD2113AD2114AD2115 AD2116AD2117AD2118AD2119AD2120AD2121 AD2122AD2123AD2124AD2125AD2126AD2127 AD2128AD2129AD2130AD2131AD2132AD2133 AD2134AD2135AD2136AD2137AD2138AD2139 AD2140AD2141AD2142AD2143AD2144AD2145 AD2146AD2147AD2148AD2149AD2150AD2151 AD2152AD2153AD2154AD2155AD2156AD2157 AD2158AD2159AD2160AD2161AD2162AD2163 AD2164AD2165AD2166AD2167AD2168AD2169 AD2170AD2171AD2172AD2173AD2174AD2175 AD2176AD2177AD2178AD2179AD2180AD2181 AD2182AD2183AD2184AD2185AD2186AD2187 AD2188AD2189AD2190AD2191AD2192AD2193 AD2194AD2195AD2196AD2197AD2198AD2199 AD2200AD2201AD2202AD2203AD2204AD2205 AD2206AD2207AD2208AD2209AD2210AD2211 AD2212AD2213AD2214AD2215AD2216AD2217 AD2218AD2219AD2220AD2221AD2222AD2223 AD2224AD2225AD2226AD2227AD2228AD2229 AD2230AD2231AD2232AD2233AD2234AD2235 AD2236AD2237AD2238AD2239AD2240AD2241 AD2242AD2243AD2244AD2245AD2246AD2247 AD2248AD2249AD2250AD2251AD2252AD2253 AD2254AD2255AD2256AD2257AD2258AD2259 AD2260AD2261AD2262AD2263AD2264AD2265 AD2266AD2267AD2268AD2269AD2270AD2271 AD2272AD2273AD2274AD2275AD2276AD2277 AD2278AD2279AD2280AD2281AD2282AD2283 AD2284AD2285AD2286AD2287AD2288AD2289 AD2290AD2291AD2292AD2293AD2294AD2295 AD2296AD2297AD2298AD2299AD2300AD2301 AD2302AD2303AD2304AD2305AD2306AD2307 AD2308AD2309AD2310AD2311AD2312AD2313 AD2314AD2315AD2316AD2317AD2318AD2319 AD2320AD2321AD2322	Queries the operation modes. The current VTR mode is detected, and the bitmap information is returned. The bitmap information is converted into ASCII code and returned by the VTR. <Note> When a setting exceeding ADDRESSF has been set by the parameter, no guarantees are given for the data following ADDRESSF.

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• Bitmap table (A)

ADDRESS	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
AD 0	0	0	CASSETTE OUT	RF VIDEO MISSING	TAPE TROUBLE	HARD ERROR	0	LOCAL or MENU
AD 1	STANDBY	0	STOP	EJECT	REW	FF	REC	PLAY
AD 2	SERVO LOCK	0	SHUTTLE	0	0	TAPE DIRECTION	STILL	CUE UP COMPLETE
AD 3	0	0	0	0	0	0	0	0
AD 4	SELECT EE	FULL EE	0	EDIT	0	0	0	CUE UP
AD 5	0	INSERT	0	VIDEO	0	0	AUDIO CH2	AUDIO CH1
AD 6	0	LAMP STILL	LAMP FWD	LAMP REW	LAMP SPEED3	LAMP SPEED2	LAMP SPEED1	LAMP SPEED0
AD 7	0	0	0	0	0	0	0	0
AD 8	0	0	0	0	0	0	0	REC INHIBIT
AD 9	0	0	0	0	0	0	0	0
AD A	0	0	0	0	0	0	0	0
AD B	0	0	0	0	0	0	0	0
AD C	0	0	0	0	0	0	0	0
AD D	0	0	0	0	0	0	0	0
AD E	0	0	0	0	0	0	0	0
AD F	0	0	0	0	0	0	0	0

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■ Query control commands

Sends data of computer	Return data from VTR	Description of command
[STX] QOS [ETX]	[STX] OPSdata [ETX] data = AD0AD1AD2AD3AD4 <Note> Refer to the bitmap table (B) for details of AD *.	Queries the operation modes. The current VTR mode is detected and sent by the bitmap information. The bitmap information is converted into ASCII code and returned by the VTR.
[STX] ORA [ETX]	[STX] RAM [ETX] m = N: ACK ON F: ACK OFF	Queries the ACK (Acknowledge) code response setting.
[STX] ORS [ETX]	[STX] RSEm [ETX] m = 0: Normal 1: No completion command 2: No completion command/No error	Queries the search end mode setting.
[STX] ORV:m [ETX] Parameters m = A: AV system control ROM version S: Sub-code microcomputer version C: Cylinder servo ROM version R: Reel servo ROM version I: Interface ROM version No parameter: Interface ROM version	[STX] VERdata [ETX] data = d1d2.d3d4.d5d6.d7.d8d9 d1 ~ d9: Software program version	Queries the software program version used for each microcomputer.
[STX] QSM [ETX]	[STX] SMMm [ETX] m = S: MEMORY STOP O: REPEAT ONE TIME A: CONTINUE F: OFF	Queries the memory mode.
[STX] QSY [ETX]	[STX] SMILPdata [ETX] data = wwghmmssff ww = LP: CTL data reference SP: TC data reference g = Blank: With a positive value - sign: With a negative value h = 0 ~ 9: Hours mm = 00 ~ 59: Minutes ss = 00 ~ 59: Seconds ff = 00 ~ 29: Frames	Queries the counter value stored in the memory.

● Bitmap table (B)

ADDRESS	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
AD 0	FULL EE	SELECT EE	0	0	0	0	TAPE END (*)	TAPE TOP (*)
AD 1	SHORT PLAY	0	STANDBY	0	0	0	0	SERVO LOCK
AD 2	REC INHIBIT TAB	CASSETTE IN/OUT	0	VTR STATUS				
AD 3	TAPE DIRECTION	SHUTTLE SPEED						
AD 4	0	INSERT VIDEO	INSERT AUDIO CH1	INSERT AUDIO CH2	0	0	0	0

<Note * >

"1" is used as the TAPE END bit and TAPE TOP bit when the tape start or end is detected, and the bits are cleared to "0" when queried by the QOS command.

VTR STATUS DATA

BIT4 ~ BIT0	VTR STATUS	BIT4 ~ BIT0	VTR STATUS
1, 1, 1, 1, 1	INSERT PAUSE	0, 1, 0, 0, 1	PLAY PAUSE
1, 1, 1, 1, 0	INSERT	0, 1, 0, 0, 0	PLAY
0, 1, 1, 1, 0	SEARCH	0, 0, 0, 1, 1	FAST FORWARD
0, 1, 1, 0, 1	AUDIO INSERT PAUSE	0, 0, 0, 1, 0	REWIND
0, 1, 1, 0, 0	AUDIO INSERT	0, 0, 0, 0, 1	EJECT
0, 1, 0, 1, 1	RECORDING PAUSE	0, 0, 0, 0, 0	STOP
0, 1, 0, 1, 0	RECORDING		

SHUTTLE SPEED DATA

BIT4 ~ BIT0	SHUTTLE SPEED	BIT4 ~ BIT0	SHUTTLE SPEED
60	(±) 9.5× or more	2A	(±) 0.2× or more but less than (±) 0.43×
59	(±) 3.0× or more but less than (±) 9.5×	20	(±) 0.1× or more but less than (±) 0.2×
4A	(±) 1.85× or more but less than (±) 3.0×	13	(±) 0.03× or more but less than (±) 0.1×
40	(±) 1.0× or more but less than (±) 1.85×	00	STILL
36	(±) 0.43× or more but less than (±) 1.0×		

■ Query control commands

Sends data of computer	Return data from VTR	Description of command
[STX] QSP:m [ETX] Parameters m = B: BEGIN point E: END point	[STX] SMPdata [ETX] data = pw:ghmmssff ● When CTL data is to be used as the reference pw = BP: BEGIN point EP: END point g = Blank: With a positive value - sign: With a negative value h = 0 ~ 9: Hours mm = 00 ~ 59: Minutes ss = 00 ~ 59: Seconds ff = 00 ~ 29: Frames ● When TC data is to be used as the reference pw = BP: BEGIN point EP: END point gh = 00 ~ 23: Hours mm = 00 ~ 59: Minutes ss = 00 ~ 59: Seconds ff = 00 ~ 29: Frames	Queries the repeat position which has been stored in the memory. Error code ER001 is returned from the VTR when the data has not been entered.
[STX] OTT [ETX]	[STX] TSTdata [ETX] data = mmmmm mmmmm = 0000: 0.5 sec. 0005: 5 sec. 0010: 10 sec. 0030: 30 sec. 0100: 1 min. 0200: 2 min.	Queries the standby OFF timer which has been stored in the memory.
[STX] QVI [ETX]	[STX] VIm [ETX] m = L: LINE S: S-VIDEO D: OPTION	Queries the position of the INPUT SELECT switch.
[STX] QVM [ETX]	[STX] VMDm [ETX] m = A: Color B: Monochrome	Queries the color mode.

■ Communication control commands

Sends data of computer	Return data from VTR	Description of command
[STX] RAN [ETX]	[STX] RAN [ETX]	Enables the return of the ACK (Acknowledge) code. <Note> This command is ignored while a search control command is being processed.
[STX] RAF [ETX]	[STX] RAF [ETX]	Disables the return of the ACK (Acknowledge) code. <Note> This command is ignored while a search control command is being processed.
[STX] RCK [ETX]	[STX] RCK [ETX]	Checks whether communication is established. <Note> This command is ignored while a search control command is being processed.
[STX] RSE:m [ETX] Parameters m = 0: Normal 1: No completion command 2: No completion command/No error	[STX] RSE [ETX]	Sets the send timing and enable or disable for sending the search completion command. • Parameter setting: normal When search is commenced: ACK code is returned. When search is completed: [STX] [] [] [] [ETX] is returned. When search is aborted: [STX] ER [] [] [] [ETX] is returned. • Parameter setting: no completion command When search is commenced: ACK code is returned, and then [STX] [] [] [] [ETX] is returned. When search is completed: No return. When search is aborted: [STX] ER [] [] [] [ETX] is returned. • Parameter setting: no completion command/no error When search is commenced: ACK code is returned, and then [STX] [] [] [] [ETX] is returned. When search is completed: No return. When search is aborted: No return. <Note> This command is ignored while a search control command is being processed.

■ Search control commands

Sends data of computer	Return data from VTR	Description of command
[STX] SCP:data [ETX] Parameters data = ghmmssff • When CTL data is to be used as the reference g = Blank: With a positive value – sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames • When TC data is to be used as the reference gh = 00~23: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames	[STX] SCP [ETX]	Searches the counter value which was designated by the parameter. Playback is commenced upon completion of the search. If the designated position is an illegal position (the target position does not exist), error code ER122 will be returned from the VTR, which is then set to the STOP mode. When the OSP (STOP) command or OEJ (tape EJECT) command is issued during operation, error code ER123 is returned from the VTR. If the VTR's operation mode has been changed by operating the controls on its front panel, error code ER121 will be returned from the VTR. If the tape end position is reached during operation, error code ER120 will be returned from the VTR. When data differing from the data used as the reference has been sent, error code ER001 will be returned from the VTR. <Note> This command is ignored while a search control command is being processed and in any of the following modes. EJECT, REC, REC PAUSE, INSERT, INSERT PAUSE
[STX] SCS:data [ETX] Parameters data = ghmmssff • When CTL data is to be used as the reference g = Blank: With a positive value – sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames • When TC data is to be used as the reference gh = 00~23: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames	[STX] SCS [ETX]	Searches the counter value which was designated by the parameter. The STILL mode is established upon completion of the search. If the designated position is an illegal position (the target position does not exist), error code ER122 will be returned from the VTR which is then set to the STOP mode. When the OSP (STOP) command or OEJ (tape EJECT) command is issued during operation, error code ER123 is returned from the VTR. If the VTR's operation mode has been changed by operating the controls on its front panel, error code ER121 will be returned from the VTR. If the tape end position is reached during operation, error code ER120 will be returned from the VTR. When data differing from the data used as the reference has been sent, error code ER001 will be returned from the VTR. <Note> This command is ignored while a search control command is being processed and in any of the following modes. EJECT, REC, REC PAUSE, INSERT, INSERT PAUSE

RS-232C

■ Search control commands

Sends data of computer	Return data from VTR	Description of command
[STX] SMI:data [ETX] Parameters data = ww:ghmmssff ● When the counter value is to be stored in the memory ww = LC: CTL data reference SC: TC data reference "ghmmssff" is omitted. ● When the parameter value for which the CTL data serves as the reference is to be stored in the memory ww = LP: CTL data reference g = Blank: With a positive value - sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames ● When the parameter value for which the TC data serves as the reference is to be stored in the memory ww = SP: TC data reference gh = 00~23: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames	[STX] SMI [ETX]	Stores the counter value and parameter value in the memory at the time when this command is received. <Note> This command is ignored while a search control command is being processed.
[STX] SMM:m [ETX] Parameters m = S: MEMORY STOP O: REPEAT ONE TIME A: CONTINUE F: OFF	[STX] SMM [ETX]	Sets the memory mode. <Note> This command is ignored while a search control command is being processed.

RS-232C

■ Search control commands

Sends data of computer	Return data from VTR	Description of command
[STX] SMP:data [ETX] Parameters data = pww:ghmmssff ● When the counter value is to be stored in the memory p = B: BEGIN point E: END point ww = LC: CTL data reference SC: TC data reference "ghmmssff" is omitted. ● When the parameter value for which the CTL data serves as the reference is to be stored in the memory p = B: BEGIN point E: END point ww = LP: CTL data reference g = Blank: With a positive value - sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames ● When the parameter value for which the TC data serves as the reference is to be stored in the memory p = B: BEGIN point E: END point ww = SP: TC data reference gh = 00~23: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames ● When the designated position is not to be entered data = BN: No entry of BEGIN point EN: No entry of END point	[STX] SMP [ETX]	Sets the repeat position. When the BEGIN point and END point have been designated in different modes, they are converted inside the VTR and set in the mode which was last designated. Parameter "ff" is processed as "00" inside the VTR. <Note> This command is ignored while a search control command is being processed.

■ Search control commands

Sends data of computer	Return data from VTR	Description of command
[STX] SMS [ETX]	[STX] SMS [ETX]	<p>Searches the counter value at the time when the command stored in the memory was received.</p> <p>The STILL mode is established upon completion of the search.</p> <p>If the designated position is an illegal position (the target position does not exist), error code ER122 will be returned from the VTR which is then set to the STOP mode.</p> <p>When the OSP (STOP) command or OEJ (tape EJECT) command is issued during operation, error code ER123 is returned from the VTR.</p> <p>If the VTR's operation mode has been changed by operating the controls on its front panel, error code ER121 will be returned from the VTR.</p> <p>If the tape end position is reached during operation, error code ER120 will be returned from the VTR.</p> <p>When data differing from the data used as the reference has been sent or when the counter value has not been stored in the memory, error code ER001 will be returned from the VTR.</p> <p><Note> This command is ignored while a search control command is being processed and in any of the following modes.</p> <div>EJECT, REC, REC PAUSE, INSERT, INSERT PAUSE</div>
[STX] SPT:data [ETX] Parameters data = ghmmssff • When CTL data is to be used as the reference g = Blank: With a positive value - sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames • When TC data is to be used as the reference gh = 00~23: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames	[STX] SPT [ETX]	<p>Plays the tape to the position which was designated by the parameter.</p> <p>The VTR is set to the STILL mode upon completion of playback.</p> <p>If the designated position is before the current position, the tape is not played back, and the VTR is set to the STILL mode.</p> <p>When the OSP (STOP) command or OEJ (tape EJECT) command is issued during operation, error code ER123 is returned from the VTR.</p> <p>If the VTR's operation mode has been changed by operating the controls on its front panel, error code ER121 will be returned from the VTR.</p> <p>If the tape end position is reached during operation, error code ER120 will be returned from the VTR.</p> <p><Note> This command is ignored while a search control command is being processed and in any of the following modes.</p> <div>EJECT, REC, REC PAUSE, INSERT, INSERT PAUSE</div>

■ Search control commands

Sends data of computer	Return data from VTR	Description of command
[STX] SRS:data [ETX] Parameters data = wghmmssff • When CTL data is to be used as the reference w = L: CTL data reference g = Blank: With a positive value - sign: With a negative value h = 0~9: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames • When TC data is to be used as the reference w = S: TC data reference gh = 00~23: Hours mm = 00~59: Minutes ss = 00~59: Seconds ff = 00~29: Frames	[STX] SRS [ETX]	<p>Searches the counter value which was designated by the parameter.</p> <p>The STILL mode is established upon completion of the search.</p> <p>If the designated position is an illegal position (the target position does not exist), error code ER122 will be returned from the VTR, which is then set to the STOP mode.</p> <p>When the OSP (STOP) command or OEJ (tape EJECT) command is issued during operation, error code ER123 is returned from the VTR.</p> <p>If the VTR's operation mode has been changed by operating the controls on its front panel, error code ER121 will be returned from the VTR.</p> <p>If the tape end position is reached during operation, error code ER120 will be returned from the VTR.</p> <p>When data differing from the data used as the reference has been sent, error code ER001 will be returned from the VTR.</p> <p><Note> This command is ignored while a search control command is being processed and in any of the following modes.</p> <div>EJECT, REC, REC PAUSE, INSERT, INSERT PAUSE</div>
[STX] SUB:data [ETX] Parameters data = uuuuuuu:d u = 0~F: User's bit value ("*" is designated for a user's bit value which is not going to be searched) d = F: Forward direction R: Reverse direction	[STX] SUB [ETX]	<p>Searches the start position of the user's bit which was designated by the parameter.</p> <p>The STILL mode is established upon completion of the search.</p> <p>The search is enabled when the same user's bit value continues for at least 5 seconds.</p> <p>When the OSP (STOP) command or OEJ (tape EJECT) command is issued during operation, error code ER123 is returned from the VTR.</p> <p>If the VTR's operation mode has been changed by operating the controls on its front panel, error code ER121 will be returned from the VTR.</p> <p>If the tape end position is reached during operation, error code ER120 will be returned from the VTR.</p> <p><Note> This command is ignored while a search control command is being processed and in any of the following modes.</p> <div>EJECT, REC, REC PAUSE, INSERT, INSERT PAUSE</div>

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■ Timer control commands

Sends data of computer	Return data from VTR	Description of command
[STX] TST: data [ETX] Parameters data = mmmmm mmmmm = 0000: 0.5 sec. 0005: 5 sec. 0010: 10 sec. 0030: 30 sec. 0100: 1 min. 0200: 2 min.	[STX] TST [ETX]	Sets the standby OFF timer. <Note> This command is ignored while a search control command is being processed.

RS-232C

■ Mode transition table

Return command	VTR STATUS											
	STOP	STANDBY OFF	EJECT	PLAY	REW	FF	PLAY PAUSE	REC	REC PAUSE	SHORT PLAY	AUTO BACK	SEARCH
OSP	—	○	×	○	○	○	○	○	○	○	○	○
OEJ	○	○	—	○	○	○	○	×	×	×	×	○
OPL	○	○	×	—	○	○	○	×	×	×	×	○
ORW	○	○	×	○	—	○	○	○	○	○	○	○
OFF	○	○	×	○	○	—	○	○	○	○	○	○
OPA	○	○	×	○	○	○	PLAY	REC PAUSE	REC	REC PAUSE	REC	○
ORC	○	○	×	○	○	○	○	—	○	○	○	○
ORP	○	○	×	○	×	×	○	○	—	○	○	×
EIN	×	×	×	×	×	×	○	×	×	×	×	×
EAD	×	×	×	×	×	×	○	×	×	×	×	×
EFE	○	○	×	○	○	○	○	×	×	×	×	○
OAF	×	×	×	×	×	×	○	×	×	×	×	×
OAR	×	×	×	×	×	×	○	×	×	×	×	×
OPR	○	○	×	○	○	○	○	×	×	×	×	○
OSL	○	○	×	○	○	○	○	×	×	×	×	○
OSF	○	○	×	○	○	○	○	×	×	×	×	○
OSR	○	○	×	○	○	○	○	×	×	×	×	○
Search commands	○	○	×	○	○	○	○	×	×	×	×	○

<Notes>

- : Operation changes to the return command mode.
- ×

× : Error code ER001 is returned, and execution is disabled.

— : The operation mode is maintained.

OPA command: The current operation mode may be replaced by another operation mode when the OPA command is issued.

Search commands: OPT, SCP, SCS, SMS, SPT, SRS, SUB

RS-232C

■ Mode transition table

Return command	VTR STATUS								
	STILL	VIDEO INSERT	VIDEO INSERT PAUSE	AUDIO INSERT	AUDIO INSERT PAUSE	A/V INSERT	A/V INSERT PAUSE	FIRST EDIT	Processing Search Command (Cue Up, etc.)
OSP	○	○	○	○	○	○	○	○	○
OEJ	○	×	×	×	×	×	×	×	○
OPL	○	×	×	×	×	×	×	×	×
ORW	○	×	×	×	×	×	×	×	×
OFF	○	×	×	×	×	×	×	×	×
OPA	PLAY	PLAY PAUSE	VIDEO INSERT	PLAY PAUSE	AUDIO INSERT	PLAY PAUSE	A/V INSERT	×	×
ORC	○	×	×	×	×	×	×	×	×
ORP	○	×	×	×	×	×	×	×	×
EIN	○	×	—	×	A/V INSERT PAUSE	×	—	×	×
EAD	○	×	A/V INSERT PAUSE	×	—	×	—	×	×
EFE	○	×	×	×	×	×	×	×	×
OAF	×	×	×	×	×	×	×	×	×
OAR	×	×	×	×	×	×	×	×	×
OPR	○	×	×	×	×	×	×	×	×
OSL	○	×	×	×	×	×	×	×	×
OSF	○	×	×	×	×	×	×	×	×
OSR	○	×	×	×	×	×	×	×	×
Search commands	○	×	×	×	×	×	×	×	×

<Notes>

- : Operation changes to the return command mode.
- ×
- : The operation mode is maintained.

OPA command: The current operation mode may be replaced by another operation mode when the OPA command is issued.
Search commands: OPT, SCP, SCS, SMS, SPT, SRS, SUB

RS-232C

(5) Checkpoints for RS-232C communication

■ Send commands and data returned from the VTR

- If the LOCAL/MENU/REMOTE switch on the front panel is not at the REMOTE position, it is not possible to exercise proper control using the RS-232C interface.
If any command except a Q (query) command is sent while this switch is not at the REMOTE position, error code ER001 is returned.
- After one of the following commands is sent, not all commands can be accepted until the processing of the sent command is completed.

OPT, SCP, SCS, SMS, SPT, SRS, SUB, EFE

Commands which can be accepted

- Q (query) commands
- OSP command (STOP)
- OEJ command (EJECT)

Error code ER001 is returned when a command other than one which can be accepted is sent.

■ Send command intervals

The AJ-D250 is a multi-microcomputer VTR. For this reason, it takes time (approx. 150 ms) for communication to be performed between the RS-232C interface microcomputer and system control microcomputer inside the VTR before any processing can be performed by the system control microcomputer inside the VTR. Therefore, leave an interval of at least 150 ms before sending a command from the computer.

Error Messages

When a problem has occurred in the unit, one of the following error messages will appear on the tape counter.

Error No.	Description	Error No.	Description
— d —	Condensation (dew) has formed.	E — 51	The FG signal (rotational speed signal) is not output from the capstan motor.
E — 00	Appears when the servo fails to lock for 3 or more seconds. When T&S&R is selected as the setup menu item No.001 setting, "SERVO NOT LOCKED" is displayed on the third line (line where the remaining tape amount is indicated) of the monitor screen.	E — 52	The capstan motor speed is abnormally high.
E — 01	Appears when there is no head output for one or more seconds (due to clogging, etc.). "L" is displayed on the first line (counter line) of the monitor screen. When T&S&R is selected as the setup menu item No.001 setting, "LOW RF" is displayed on the third line (line where the remaining tape amount is indicated) of the monitor screen.	E — 53	The capstan motor speed is abnormally low.
E — 09	Appears when a blank area on the tape has been detected. "N" is displayed on the first line (counter line) of the monitor screen. When T&S&R is selected as the setup menu item No.001 setting, "NO RF" is displayed on the third line (line where the remaining tape amount is indicated) of the monitor screen. When all the following conditions are met, the part of the tape is recognized as a blank. • No output from any of the heads • Playback data cannot be read • No CTL signal	E — 61	The supply (S) reel motor is locked.
E — 11	The reel base which operates in line with the size of the tape has been locked for 2.5 or more seconds.	E — 62	The take-up (T) reel motor is locked.
E — 21	Four or more 4 seconds have elapsed after the cassette was inserted but the cassette is not lowered down inside the unit. Alternatively, 4 or more seconds have elapsed after the eject operation was initiated but the cassette is not ejected.	E — 63	The supply reel motor speed is abnormally high.
E — 31	The loading operation is not completed within 4 seconds.	E — 64	The take-up reel motor speed is abnormally low.
E — 32	The unloading operation is not completed within 4 seconds.	E — 65	Abnormal tension has been detected.
E — 41	The FG signal (rotational speed signal) is not output from the cylinder motor.	E — 66	The start or end processing operation fails to be completed even after 7 or more seconds have elapsed.
E — 42	The PG signal (phase signal) is not output from the cylinder motor.	E — 67	A communication error between SERVO and AVSYS. Errors in the data.
E — 43	The cylinder motor speed is abnormally high.	E — 68	A communication error between SERVO and AVSYS. The data is fixed at high or low.
E — 44	The cylinder motor speed is abnormally low.	E — 69	A problem in communication between SERVO and AVSYS when the power was switched on.
		E — 6B	This appears when there is a communication error between IF and AVSYS. There is a problem with the internal reference or external reference.
		E — 70	The fan motor has stopped. "S" is displayed on the first line (counter line) of the monitor screen. When T&S&R is selected as the setup menu item No.001 setting, "FAN STOP" is displayed on the third line (line where the remaining tape amount is indicated) of the monitor screen. When about an hour elapses, the unit is shut down automatically.
		E — 72	There is a problem in the solenoid drive circuit.
		E — 73	There is a problem in the cleaning solenoid drive circuit.

Emergency Eject

Procedure for removing the tape manually in an emergency

Use the procedure below to remove the cassette tape if it can not be removed even when the EJECT button is pressed.

- Before proceeding to eject the tape manually, you must first turn off the power to the unit.

- 1 Remove the top panel.
- 2 Use a Phillips head screwdriver to push in and turn the red plastic screw part counterclockwise.
(This screw needs to be rotated about 30 turns before unloading can be started.)
- 3 Insert the take-up jig (packed with the unit) into the tape ejection slot (on the mechanism side of the VTR), and rotate the flange part (white gear) of the supply reel in the take-up direction using the rubber part of the take-up jig to take up the tape slack.
- 4 Use the Phillips head screwdriver to push in and turn the red plastic screw part counterclockwise once more. Again rotate the flange part of the supply reel in the take-up direction to take up the tape slack.
This two-step procedure needs to be repeated until the tape is completely housed in the cassette case (about 90 turns of the red plastic screw part).

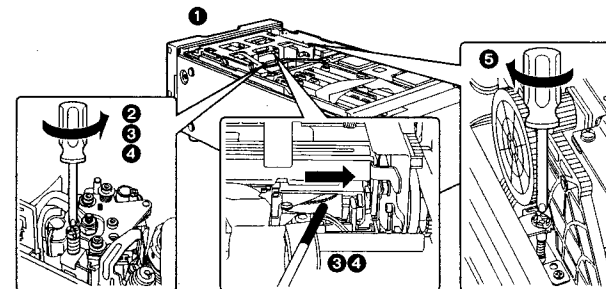
- 5 Use the Phillips head screwdriver to turn the red plastic screw part at the slot-in side clockwise to eject the cassette tape.
(This screw needs to be rotated through about 140 turns until the tape is ejected.)

<Note>

Take care not to damage the tape in any way.

<Note>

Take care not to sandwich or catch the tape when closing the cassette cover.



SECTION 2

SERVICE INFORMATION

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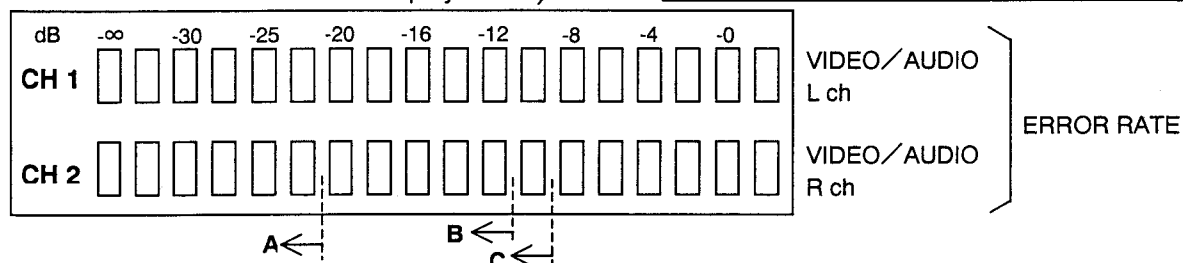
1. Error Rate Confirmation Procedure

The error rate is displayed on the AUDIO LEVEL METER in Service menu mode.. (When enters in Service menu mode, the AUDIO LEVEL METER changes into the error display mode automatically.)

CH1 indicator ON : Video Error Rate display mode.)

CH2 indicator ON : Audio Error Rate display mode.)

Video and Audio Error Rate display mode can be changed by press Audio Output Select button



When confirm the error rate, please refer to specification as indicated as below, then please set the some items on Service menu follow the indicated as below table.

《Specification of Error Rate》

	Mode	Specification of Error Rate
DVCPRO (PB)	DVCPRO (PB Head) Alignment Tape Playback	Under the "A" position at Level Meter
DVCPRO (RP)	DVCPRO (RP Head) Alignment Tape Playback	Under the "B" position at Level Meter
DV (R/P)	DV (RP Head) Alignment Tape Playback	Under the "C" position at Level Meter

《Setting of Service Menu》

MENU	DVCPRO (PB Head Playback)	DVCPRO (RP Head Playback)	DV Playback
B11 : ERROR MODE	FAST	FAST	FAST
B05 : PB HEAD	PB H	RP H	RP H
B03 : VITERBI	ON	ON	ON

CH CONDITION Comparison

	Audio Lch (Video Lch)	Audio Rch (Video Rch)	DVCPRO Playback	DV Playback	ERROR RATE
dB			Red	Red	
0				Blue	
-4			Blue		
-8					
-12					
-16				Green	
-20			Green		
-25					
-30					
-∞					

CH CONDITION LAMP

2. Service Menu Information

< To transfer from normal mode to Service Menu mode >

- (1) Set the bit 2 of DIP SW60902 on the AV SYSCON P.C.Board to ON position.
- (2) Set the 「LOCAL / MENU / REMOTE」 select switch on the Front Panel to "MENU" position, then Main menu of Service menu appeared on the screen as indicated as below.

<Main Menu>	
SERVICE-MENU	
No. A00	
* A00 :	SERVO ADJUST
B00 :	MODE SELECT
C00 :	REC ADJUST
D00 :	PB ADJUST
E00 :	EQ ADJUST
F00 :	VIDEO ADJUST
F80 :	TBC ADJUST
END	

- (3) Move the star mark "*" by [UP] (FF) or 「DOWN」(STOP) button on the front panel for select the each Sub menu item.
- (4) Press the SET button, then open the Sub-menu follow the selected item (A00 to F80) on the Main menu.
- (5) For change the value or setting, press the [DATA+] (PAUSE) or 「DATA-」 (PLAY) button.
- (6) Set the 「LOCAL / MENU / REMOTE」 select switch on the Front Panel to "LOCAL" or "REMOTE" position, then escape from Service menu.

The contents of each "Sub menu" which are described on behind page. And the Counter Display is displayed selected number and setting number as indicated as below (Selected Number and Setting Number described on behind page).

A01-0207

Selected Number

Setting number

< Key function for the Service Menu >

『LOCAL/MENU/REMOTE』	<ol style="list-style-type: none"> 1) Set "MENU" position, then move to Service menu mode(it have condition bit 2 of DIP SW60902 on AV SYSCON P.C.Board to ON position) 2) Set "LOCAL" or "REMOTE" position during Service Menu mode, then escape from Service Menu.
『UP』	<ol style="list-style-type: none"> 1) Move the cursor "*" for select the each items (the cursor move to down direction). 2) Operated FF function originally if press 「END」 + 「UP」 button.
『DOWN』	<ol style="list-style-type: none"> 1) Move the cursor "*" for select the each items (the cursor move to up direction). 2) Operated STOP function originally if press 「END」 + 「DOWN」 button.
『MOVE』 + 『UP』	<ol style="list-style-type: none"> 1) Move the cursor "*" to next page (Page up function).
『MOVE』 + 『DOWN』	<ol style="list-style-type: none"> 1) Move the cursor "*" to behind page (Page down function).
『SET』	<ol style="list-style-type: none"> 1) Move to Sub-menu from Main menu. 2) Operated REC function originally if press 「END」 + 「SET」 button.
『MOVE』 + 『SET』	<ol style="list-style-type: none"> 1) Move to Main menu from Sub-menu.
『DATA+』	<ol style="list-style-type: none"> 1) Increase the adjustment value or select the selecting item. 2) Operated PAUSE function originally if press 「END」 + 「DATA+」 button.
『DATA-』	<ol style="list-style-type: none"> 1) Decrease the adjustment value or select the selecting item. 2) Operated PLAY function originally if press 「END」 + 「DATA-」 button.
『BIGIN』	<ol style="list-style-type: none"> 1) Execute the PG Shifter adjustment
『END』	<ol style="list-style-type: none"> 1) Change function of the Key (REW, STOP, FF, PLAY, PAUSE, REC) by press 「END」 + "Operation key" on Service mode.
『AUDIO OUTPUT SELECT』	<ol style="list-style-type: none"> 1) Change the display of Error rate, VIDEO or AUDIO on Audio Level Meter. 2) Select the AUDIO Output signal originally, if press 「END」 + 「AUDIO OUTPUT SELECT」 button.

Contents of Sub-menu

《A00: SERVO ADJUST》

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
A01	T OFFSET	0000	-128	Torque Command Offset Adj. of T REEL	
		0200	72		
		0255	127		
A02	S OFFSET	0000	-128	Torque Command Offset Adj. of S REEL	
		0200	72		
		0255	127		
A03	T TORQUE	0000	-128	Correct the offset value of T REEL MOTER DRIVE	
		0128	0		
		0255	127		
A04	S TORQUE	0000	-128	Correct the offset value of S REEL MOTER DRIVE	
		0128	0		
		0255	127		
A05	TENSION OFST	0000	-128	Torque Command Offset Adj. of T REEL	
		0213	85		
		0255	127		
A06	PG SFTR RISE	0000	0	(RISE display) PG SHIFTER AUTO ADJ (FALL display).	
		1024	1024		
		4095	4095		
A07	PG SFTR FALL	0000	0		
		1024	1024		
		4095	4095		

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
NO.	Name	No.	Display		
A08	RP GAIN	0000 0128 0255	-128 0 127	LISTA SENSITIVITY Adj. (RP HEAD) for DVCPRO	
A09	RP LINEAR			LISTA LINEARITY Adj. (RP HEAD) for DVCPRO	
A10	PB GAIN	0000 0128 0255	-128 0 127	LISTA SENSITIVITY Adj. (PB HEAD) for DVCPRO	
A11	PB LINEAR			LISTA LINEARITY Adj. (PB HEAD) for DVCPRO	
A12	DV GAIN	0000 0128 0255	-128 0 127	LISTA SENSITIVITY Adj. (RP HEAD) for DV.	
A13	DV LINEAR			LISTA LINEARITY Adj. (RP HEAD) for DV	
A14	MOTOR CHECK	0000 0001 0002 0003 0004	OFF CAPS. DRUM REEL REEL	Check the motor operation.	
A15	DVCAM ENA	0000 0001	OFF ON	SELECT THE DVCAM FORMAT CASSETTE	

◀B00: MODE SELECT▶

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
B01	REC DATA SEL	0000 0001 0002	NORMAL CW CW/4	SELECT THE RECORDING DATA	
B02	ECC	0000 0001 0002 0003	ALL ON INR ON OTR ON AL OFF	ERROR CORRECTION INNER ON/OUTER ON ERROR CORRECTION INNER ON/OUTER OFF ERROR CORRECTION INNER OFF/OUTER ON ERROR CORRECTION INNER OFF/OUTER OFF	
B03	VITABI	0000 0001 0002	AUTO MANUAL OFF	VITABI OPERATION ON/OFF	
B04	CONCEAL	0000 0001	ON OFF	ERROR CONCEALMENT ON ERROR CONCEALEMENT OFF	
B05	PB HEAD	0000 0001	PB R/P	FORCED PB HEAD PLAYBACK FORCED RP HEAD PLAYBACK	
B06	TRACKING	0000 0001	ATF CTL	SELECTION OF TRACKING CONTROL MODE * This function is only active on the service Menu mode.	
B07	MANUAL TRACK	0000 012B 0255	-128 0 127	" IN CASE OF SELECT THE CTL MODE ON ABOVE ITEM B06, TRACKING VALUE IS ADJUSTABLE" * TRACKING VALUE RANGE DATA 0 - 116 : RELATIVE TO 1 TRACK THEREFORE 0 TO 127 IS RELATIVE TO JUST OVER 18 μ m	
B08	VTB A/2	0000 0031 0063	0 31 63	SET VALUE OF A/2 ONLY EFFECTIVE VITABI SET TO MANUAL	
B09	AD VCO TEST	0000 0001 0002 0003 0004 0005 0006	OFF 32/TST 32/NOR 44/TST 44/NOR 48/TST 48/NOR	SELECT THE ADJUSTMENT MODE OF SAMPLING FREQUENCY OF AUDIO	
B10	SHUFFLE EE	0000 0001	ON OFF	SHUFFLE EE MODE ON/OFF	
B11	ERROR MODE	0000 0001	FAST SLOW	ERROR DISPLAY MODE "FAST" ERROR DISPLAY MODE "SLOW"	
B12	DIF FORM SEL	0000 0001 0002	DIS ENA1 ENA2	SELECT THE FORMAT OF DIF AUDIO	
B13	DIF AUD SEL	0000 0001	DFLT ZERO	SETTING OF RECORDING METHORD OF DIF AUDIO	
B14	SLOW AUDIO	0000 0001	OFF CUE	SELECT THE CONDITION OF AUDIO OUTPUT SIGNAL ON SLOW PLAYBACK MODE	

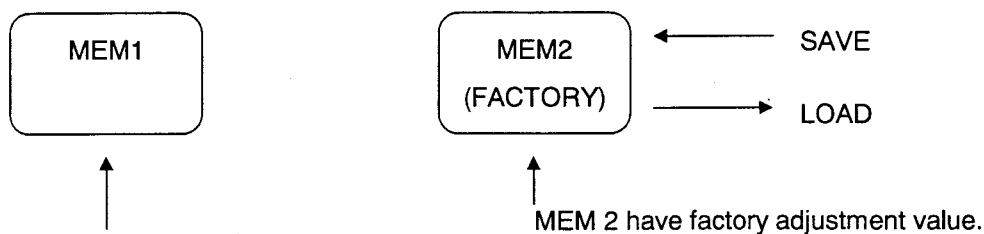
《C00: REC ADJUST》

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
C01	REC CURR L	0000	-128	SETTING OF REC CURR (RP Lch)	
		0108	-20		
C02	REC CURR R	0255	127	SETTING OF REC CURR (RP Rch)	
		0108	-20		
C03	REC FREQ L	0255	127	SETTING OF REC FREQ (RP Lch)	
		0108	-20		
C04	REC FREQ R	0255	127	SETTING OF REC FREQ (RP Rch)	
		0108	-20		
C05	DEFAULT	0255	127		
		0000	END		
		0001	LOAD		
		0002	SAVE		

「 Operation of DEFAULT 」

1. Set the cursor "*" to SAVE or LOAD and press the SET button, then execute the program.

NOTE: 1. The VTR have two memory area for the adjustment value as indicated as below.



MEM1 is always renewed follow the adjustment value on the RF and EQ adjustment menu.

2. We recommended the SAVE function does not use on the market, because the renewed adjustment value is stored to MEM 1 automatically.

《D00: PB ADJUST》

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
D01	RP PHASE L	0000 0055 0255	-128 -73 127	RP Lch PLAYBACK PHASE CORRECTION	
D02	RP MAG L	0000 0108 0255	-128 -20 127	RP Lch PLAYBACK OUTPUT GAIN CORRECTION	
D03	RP A L	0000 0160 0255	-128 42 127	RP Lch PLAYBACK OUTPUT DELAY A CORRECTION	
D04	RP B L	0000 0100 0255	-128 -28 127	RP Lch PLAYBACK OUTPUT DELAY B CORRECTION	
D05	RP PHASE R	0000 0055 0255	-128 -73 127	RP Rch PLAYBACK PHASE CORRECTION	
D06	RP MAG R	0000 0108 0255	-128 -20 127	RP Rch PLAYBACK OUTPUT GAIN CORRECTION	
D07	RP A R	0000 0160 0255	-128 42 127	RP Rch PLAYBACK OUTPUT DELAY A CORRECTION	
D08	RP B R	0000 0100 0255	-128 -28 127	RP Rch PLAYBACK OUTPUT DELAY B CORRECTION	
D11	PB PHASE L	0000 0055 0255	-128 -73 127	PB Lch PLAYBACK PHASE CORRECTION	
D12	PB MAG L	0000 0108 0255	-128 -20 127	PB Lch PLAYBACK OUTPUT GAIN CORRECTION	

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
D13	PB A L	0000 0160 0255	-128 42 127	PB Lch PLAYBACK OUTPUT DELAY A CORRECTION	
D14	PB B L	0000 0100 0255	-128 -28 127	PB Lch PLAYBACK OUTPUT DELAY B CORRECTION	
D15	PB PHASE R	0000 0055 0255	-128 -73 127	PB Rch PLAYBACK PHASE CORRECTION	
D16	PB MAG R	0000 0108 0255	-128 -20 127	PB Rch PLAYBACK OUTPUT GAIN CORRECTION	
D17	PB A R	0000 0160 0255	-128 42 127	PB Rch PLAYBACK OUTPUT DELAY A CORRECTION	
D18	PB B R	0000 0100 0255	-128 -28 127	PB Rch PLAYBACK OUTPUT DELAY B CORRECTION	
D21	DV PHASE L	0000 0090 0255	-128 -38 127	RP Lch PLAYBACK PHASE CORRECTION (FOR DV)	
D22	DV MAG L	0000 0200 0255	-128 72 127	RP Lch PLAYBACK OUTPUT GAIN CORRECTION (FOR DV)	
D23	DV A L	0000 0140 0255	-128 12 127	RP Lch PLAYBACK OUTPUT DELAY A CORRECTION (FOR DV)	
D24	DV B L	0000 0100 0255	-128 -28 127	RP Lch PLAYBACK OUTPUT DELAY B CORRECTION (FOR DV)	
D25	DV PHASE R	0000 0090 0255	-128 -38 127	RP Rch PLAYBACK PHASE CORRECTION (FOR DV)	

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
D26	DV MAG R	0000 0200 0255	-128 72 127	RP Rch PLAYBACK OUTPUT GAIN CORRECTION (FOR DV)	
D27	DV A R	0000 0140 0255	-128 12 127	RP Rch PLAYBACK OUTPUT DELAY A CORRECTION (FOR DV)	
D28	DV B R	0000 0100 0255	-128 -28 127	RB Rch PLAYBACK OUTPUT DELAY B CORRECTION (FOR DV)	
D30	DEFAULT	0000 0001 0002	END LOAD SAVE	LOAD THE FACTORY ADJUSTMENT VALUE SAVE THE ADJUSTMENT VALUE	

《E00: EQ ADJUST》

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
E01	AUTEQ TARGET	0000	-128	QUANTITY OF EQUIVALENT FOR EQ IC ADJ.	
		0170	42		
E02	DELAY OFFSET	0255	127	EQ DELAY OFFSET ADJ.	
		0100	-28		
E03	COMP LEVEL	0255	127	EQ COMPALATOR LEVEL ADJ.	
		0120	-8		
E04	CLOCK PHASE	0255	127	PLL CLOCK PHASE ADJ.	
		0160	32		
E05	DEFAULT	0000	END	LOAD THE FACTORY ADJUSTMENT VALUE SAVE THE ADJUSTMENT VALUE	
		0001	LOAD		
		0002	SAVE		

《F00: VIDEO ADJUST》

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
F01	Y/C AXIS OFS	0000 0128 0255	-128 0 127	SETTING THE OFFSET OF Y/C REC CHROMA PHASE.	
F02	CPS AXIS OFS	0000 0128 0255	-128 0 127	SETTING THE OFFSET OF COMPOSITE REC CHROMA PHASE.	
F03	CPS Y LEV	0000 0128 0255	-128 0 127	SETTING OF RECORDING Y LEVEL	
F04	CPS C LEV	0000 0128 0255	-128 0 127	SETTING OF RECORDING CHROMA LEVEL	
F05	Y CLAMP DC	0000 0128 0255	-128 0 127	SETTING VOLTAGE OF RECORDING Y CLAMP	
F06	REC PR BAL	0000 0128 0255	-128 0 127	SETTING OF REC Pr LEVEL	
F07	REC PB BAL	0000 0128 0255	-128 0 127	SETTING OF REC Pb LEVEL	
F08	PR BAL	0000 0128 0255	-128 0 127	SETTING OF Pr OUTPUT BALANCE	
F09	PB BAL	0000 0128 0255	-128 0 127	SETTING OF Pb OUTPUT BALANCE	
F10	SET UP OFST	0000 0128 0255	-128 0 127	SETING OF SET UP LEVEL	

ITEM		SETTING VALUE		CONTENTS OF SETTING AND ADJUSTMENT	REMARK
No.	Name	No.	Display		
F11	V LEV OFST	0000 0128 0255	-128 0 127	SETTING OF VIDEO OUTPUT LEVEL	
F12	HUE OFST	0000 0128 0255	-128 0 127	SETTING HUE OFFSET BALUE OF VIDEO OUTPUT	
F13	C LEV OFST	0000 0128 0255	-128 0 127	SETTING OF PLAYBACK CHROMA LEVEL	
F14	SET UP ADD	0000 0072 0255	-128 -56 127	SET THE SET UP LEVEL on SET UP ADD condition	
F15	V LEV ADD	0000 0026 0255	-128 -102 127	SET THE VIDEO LEVEL on SET UP ADD condition	
F16	Y CLAMP CUT	0000 0119 0255	-128 -9 127	SET THE LEVEL on SET UP CUT condition	
F17	EE CLAMP DC	0000 0208 0255	-128 80 127	SETTING OF CLAMP DC ON EE MODE	
F18	VV CLAMP DC	0000 0216 0255	-128 88 127	SETTING OF CLAMP DC ON VV MODE	
F19	V SETUP	0000 0001	OFF ON	Select the display V IN SET UP and V OUT SET UP on the SET UP menu	
F30	DEFAULT	0000 0001 0002	END SAVE LOAD	LOAD THE FACTORY ADJUSTMENT VALUE SAVE THE ADJUSTMENT VALUE	

《F80: TBC ADJUST》

ITEM		SETTING VALUE		CONTENTS OF SETTING and ADJUSTMENT	Remark
No.	Name	No.	Display		
F81	V LEV ENA	0000 0001	OFF ON	VALID / INVALID SELECTION OF VIDEO LEVEL FOR SET UP MENU "05 : VIDEO LEVEL"	
F82	STUP LEV ENA	0000 0001	OFF ON	VALID / INVALID SELECTION OF SET UP LEVEL FOR SET UP MENU "06 : SET UP LEVEL"	
F83	HUE ENA	0000 0001	OFF ON	VALID / INVALID SELECTION OF HUE FOR SET UP MENU "07 : HUE"	
F84	C LEV ENA	0000 0001	OFF ON	VALID / INVALID SELECTION OF CHROMA LEVEL FOR SET UP MENU " 08 : CHROMA LEVEL "	
F85	VIDEO PHASE	0000 0128 0255	-128 0 127	SETTING OF VIDEO PHASE	
F86	DEFAULT	0000 0001 0002	END LOAD SAVE	LOAD THE FACTORY ADJUSTMENT VALUE SAVE THE ADJUSTMENT VALUE	

3. DIAG MENU OPERATION (Display procedure of Hour Meter and Software Version)

- Display the Software version
- Display the Hour Meter

The units system software version display and hour meter displays can be viewed on the DIAG menu.

<To transfer from a Normal mode to the DIAG mode>

- (1). Keep pressing EJECT button, set the 「LOCAL/MENU/REMOTE」 switch to "MENU" position on the front panel, then Hour Meter information appear on screen.
- (2). For select the item on Hour Meter display, press UP(FF) button to move down the cursor(*) and press DOWN(REW) button to move up the cursor(*)).

《Hour Meter Display》

DIAG-MENU HOUR METER		
* H0	OPERATION	10000H
H1	DRUM RUN	10000H
H2	TAPE RUN	10000H
H3	THREADING	10000T

Counter Display also displayed item number and hour of Hour Meter information as indicated as below

(e.g.) H0 00001

《Version Display》

DIAG-MENU-VERSION	
<NTSC>	
IF	1.00-00-0.00
AV-SYSCON	1.00-00-0.00
SBC	1.00-00-0.00
CYLINDER	1.00-00-0.00
REEL	1.00-00-0.00
END	

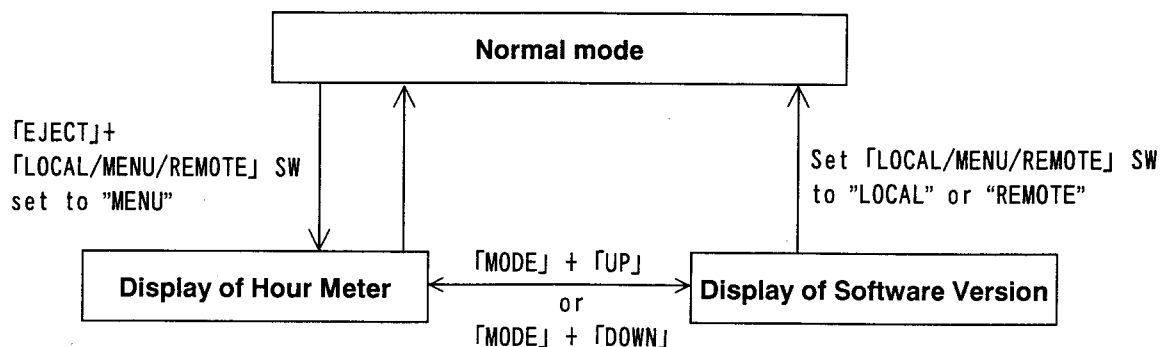
Software version number of FRONT displayed on the Counter display as indicated as below.

(e.g.) 2.00-006

<To display the software version>

- (1). Press 「MODE」+「UP」 or 「MODE」+「DOWN」 button.
The display changes to version from hour meter.

[Display Mode]



4. HOW TO RESET THE HOUR METER

1. Make an Eject condition.
2. Set the bit 2 of DIP SW 60902 on AV SYSCON P.C.Board to ON position.
3. Display the Hour Meter information on screen.
4. Set cursor "*" to required item for reset (item H1 to H3).

NOTE: The Hour Meter can reset individually, which are DRUM RUN, TAPE RUN and THREADING.

5. Press the reset button, then appeared message as indicated as below.

< In case of select H1:DRUM RUN >

<p>HOUR NETER INIT SET</p> <p>DRUM RUN OK?</p> <p>YES <STOP> / NO <STILL></p>

※ When press the "STOP" button, then execute the reset function.

When press the "STILL" button, then cancel the reset command.

Details of the hour meter display are given below.

Item		Data	Description
No.	Display	Display	
H0	OPERATION	00000H 99999H	The period of time during which the power has been supplied since it was turned on is displayed in 1-hour increments.
H1	DRUM RUN	00000H 99999H	The period of time during which the drum has been rotation is displayed in 1-hour increments.
H2	TAPE RUN	00000H 99999H	The tape travel duration in the fast forward, rewind, play, search (JOG, VAR, SHTL), recording or editing mode (but not in the STILL mode with JOG, VAR and SHTL) is displayed in 1-hour increments.
H3	THREADING	00000H 99999H	The number of times the tape has been threaded or unthreaded is displayed in 1-time increments.

5. FLASH ROM VERSION UP PROCEDURE

1. FLASH ROM VERSION UP REQUIREMENT.

- Flash rom version up software (VFK1248A)
- Rom Rewriter (VFK1304A)
- WINDOWS Ver. 3.1 or WINDOWS 95 built in personal computer
- RS-232C cable (cross)

Note : The VFK1304A is designed cross type specification of 9P RS232C cables.

- If you want to use the RS232C straight cables, please remove the resistor R3 and R4. And those resistors are install to pattern of R1 and R2.

2. INSTALL THE FLASH ROM VERSION UP SOFTWARE

- Copy the following files to WINDOWS Ver. 3.1 or WINDOWS 95 built in personal computer.

VSI2312A.EXE (PROGRAM FILE)

VSI2312A.INI (INITIAL FILE)

3. LOADING METHOD OF FLASH ROM VERSION UP SOFTWARE

- 1) When using the WINDOWS Ver. 3.1 built in personal computer.
 - Load the file manager and double click the VSI2312A.EXE file.
 - Resistor the VSI2312A.EXE file to icon and double click it.
- 2) When using the WINDOWS 95 built in personal computer.
 - Load the explorer and double click the VSI2312A.EXE file.
 - Make the short cut of VSI2312A.EXE file and double click it.

4. CONNECTION OF ROM REWRITER.

Please connect the Rom Rewriter after turn off the power switch on AJ-D250.

Caution

-- Additional Preparation --

Please disconnect the flexible cable of the P1101 connector on the AV SYSCON C.B.A..

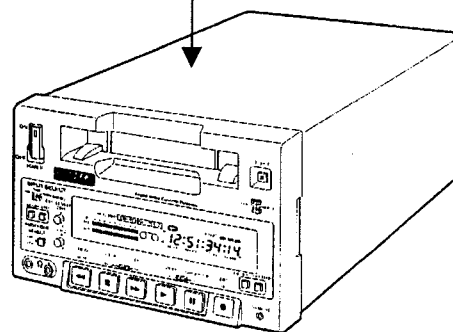
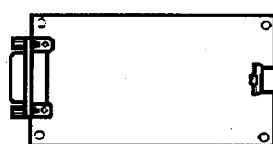
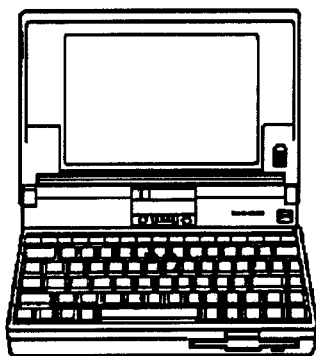
Also, be careful about disconnected flexible cable does not touch to the Print Circuit boards or Chassis of the unit.

Connect the RS-232C Cable between VFK1304A and serial port of Personal Computer

VFK1304A

* VWJ20E5500L00

Connect the flexible cable between VFK1304A and P60802 on AV SYSCON Board.



*** NOTE :** The flexible cable (Part No.VWJ20E5500L00) included VFK1304A. But it can be ordered for spare parts.

5. FLASH ROM VERSION UP PROCEDURE

- (1) Connect the Rom Writer (VFK1304A) to D250 and personal computer after turn off the power switch on AJ-D250
- (2) Set the pin 1 and 2 of Dip Switch on the P.C.Board (VFK1304A) to ON position.
- (3) Load the flash rom version up software. Then the following window is opened.

Setup Panel

TARGET MACHINE ID CHECK ☐ Off ☒ On **K2**

TARGET FILE NAME **A:¥ K2 .MOT**

Port: **COM1** Baud Rate: **56000** Stop Bits: **1Bit** Byte Size: **8Bits** Parity: **NONE** Main Panel: ☐ Full size

Ok **Browse...** **Default** **Exit(End)** **Cancel** **Version**

This program is **C:¥ROM_SOFT¥VSI2312A.EXE**

(4) Set the following setting on the Set Up Panel. Please type capital letter.

- TARGET MACHINE ID CHECK ---> On, K2
- TARGET FILE NAME ---> Set the new software file name with full pass or click the Browse button and select the new file. (When click the Browse button, the following window is opened.)
- Port ---> Set the personal computer COM port No.
- Baud Rate ---> Baud Rate can be set 56000 and 19200 only. In case of set to 19200, set the pin 2 of Dip-Switch to OFF position on the P.C.Board (VFK1304A).

Select target file

File name (N) : **a:¥ K2 .mot**

Directories (D) : **a:¥**

OK **Cancel**

☐ Overwrite (B) :

Files (I) : **Hex Files (*.mot)**

Drive (V) : **a:**

(5) Set the Main Panel setting and then click the OK button. Main Panel is opened.

- Main Panel ---> When select the full size of Main Panel, the following window is opened. Full size Main Panel can indicate the detail information of machine status.

However it takes more time to complete the version up at the full size main Panel in

Main Panel 0%

TARGET MACHINE ID CHECK ☐ OFF ☒ ON K2

TARGET FILE NAME A:¥ K2.MOT

☐ Display read file data (File -> PC)

☐ Display sent data (PC -> Target machine)

☐ Display received data (Target machine -> PC)

Information

☒ Waiting to start ☐ Reading file and verifying

☐ Inquiring type of machine ☐ Sending

☐ Erasing machine ROM ☐ Waiting to receive data

☐ Checking received data

0% 50% 100%

This program is C:¥ROM_SOFT¥VSI2312A.EXE

Start

Emergency stop

Quit Exit(End)

- Main Panel ---> When select the small size of Main Panel, the following window is opened.

Main Panel 0%

COM1

Start Exit(End) Quit

Emergency stop

We recommend the Main Panel setting to full size.

- (6) Turn on the power switch on AJ-D250. And confirm that the LCD is displayed abnormal. (It only occurred version up side of VTR.)
- (7) If the LCD is displayed normally, if occurred connection error.
Please confirm the connection between AJ-D250, rom rewriter and personal computer after turn off the power switch on AJ-D250.
- (8) Click the OK button on the Main Panel. Rewrite the new software to flash rom after erase the flash rom. When you selected the full size Main Panel, you can confirm the detail information of machine status. When you selected the small size Main Panel, you can confirm the machine status (percentage) at title bar.

Note: · It takes about 1 minute to erase flash memory.

- (9) In case of no erasing or no writing when "Inquiring type of machine" on the full size Main Panel, check the RS-232C communication or TARGET MACHINE TYPE.
- (10) After finish the version up, please confirm the display of AV STS software version on the LCD. Turn the power switch to off and disconnect the Rom rewriter (VFK1304A) from the D250.

6. ERROR MESSAGES

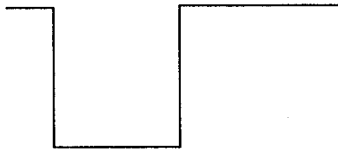
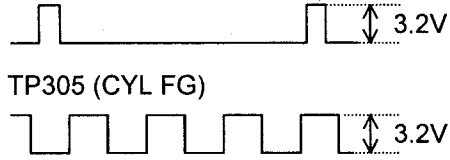
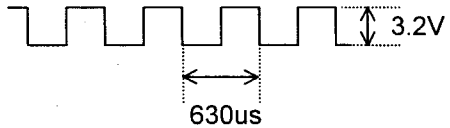
When one of the error numbers appears on the counter display, the VTR is set to the auto OFF mode (stop).

NOTE: Error number E-00, E-01 and E-09, which are indicated as warning condition to VTR. VTR operation is continued.

Error No.	Details of Error	VTR Operation
E-00	Appears when the servo fails to lock 3 or more seconds. When T&S&R is selected as the SETUP menu item No.001 setting, "SERVO NOT LOCKED" is display on the third line (line where the remaining tape amount is indicated) of the monitor screen.	CONTINUATION
E-01	Appears when there is no head output for one or more seconds (due to clogging, etc.). "L" is displayed on the first line (counter line) of the monitor screen. When T&S&R is selected as the SETUP menu item No.001 setting, "LOW RF" is display on the third line (line where the remaining tape amount is indicated) of the monitor screen.	CONTINUATION
E-09	<p>Appears when there is no head output for one or more seconds (due to clogging, etc.). "N" is displayed on the first line (counter line) of the monitor screen. When T&S&R is selected as the SETUP menu item No.001 setting, "NO RF" is display on the third line (line where the remaining tape amount is indicated) of the monitor screen.</p> <p>When all the following conditions are met, the part of the tape is recognized as a blank.</p> <ul style="list-style-type: none"> ● No output from any of the heads ● Playback data can not be read ● NO CTL signal 	CONTINUATION
E-11	The reel base, which operates in line with the size of the tape has been locked up for 2.5 or more seconds.	STOP
E-21	Four or more 4 seconds have elapsed after the cassette was instead but the cassette is not lowered down inside the unit. Alternatively, 4 or more seconds have elapsed after the eject operation was initiated but the cassette is not ejected.	STOP
E-31	The loading operation is not completed within 4 seconds.	STOP
E-32	The unloading operation is not completed within 4 seconds.	STOP
E-41	The FG (rotational speed) signal is not output from the cylinder motor.	STOP
E-42	The PG (phase speed) signal is not output from the cylinder motor.	STOP
E-43	The cylinder motor speed is abnormally high.	STOP
E-44	The cylinder motor speed is abnormally low.	STOP

Error No.	Details of Error	VTR Operation
E-51	The FG (rotational speed) signal is not output from the capstan motor.	STOP
E-52	The capstan motor speed is abnormally high.	STOP
E-53	The capstan motor speed is abnormally low.	STOP
E-61	The supply reel motor has locked up.	STOP
E-62	The take-up reel motor has locked up.	STOP
E-63	The supply reel motor speed is abnormally high.	STOP
E-64	The take-up reel motor speed is abnormally high.	STOP
E-65	Abnormal tension has been detected.	STOP
E-66	At the tape start or end, the short FF or, REW operation does not stop even after 7 or more seconds.	STOP
E-67	A check sum error was detected in the serial data communication between the AV SYSCON and SERVO.	STOP
E-68	In serial data communication between the AV SYSCON and SERVO, the data was fixed at low or high and the absence of data was detected.	STOP
E-69	A communication error was detected in the serial data between the AV SYSCON and SERVO, when the power was turned on.	STOP
E-6B	This appears when there is a communication error between IF and AV SYSCON. There is a problem with the internal reference or external reference.	STOP
E-70	The fan motor has stopped "S" is displayed on the first line (counter line) of the monitor screen. When T&S&R is selected as the SETUP menu item No.001 setting, "FAN STOP" is display on the third line (line where the remaining tape amount is indicated) of the monitor screen. When about an hour elapses, the unit is shut down automatically.	STOP ↓ Forced POWER OFF
E-72	Trouble in the solenoid drive circuitry was detected.	STOP
E-73	Trouble in the cleaning solenoid drive circuitry was detected.	STOP

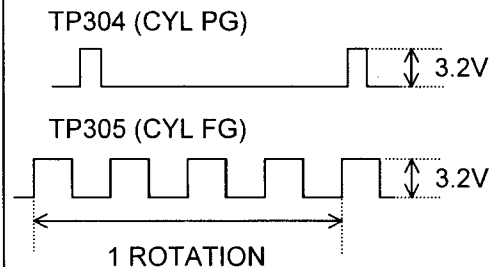
7. AUTO OFF Check Point Table (Part of SERVO)

Error Number	Check Point	
<div>E-43</div> 	 <p>TP304 (CYL PG)</p> <p>TP305 (CYL FG)</p>	<p>Check Cylinder PG at pin 66 of IC2201 (TP304)</p> <p>Check Cylinder FG at pin 67 of IC2201 (TP305)</p> <p>[In case of fast rotation]</p> <ul style="list-style-type: none"> ● Check Cylinder flexible cable, connectors. ● Check CYL_ERR (TP204) voltage. <p>Normal Rotation : TP204 = about 1.6 V</p> <p>During Full Acceleration : TP204 = 0 V</p> <p>EJECT mode : TP204 = 3.2 V</p> <p>V REF (IC2506-47 pin) = about 1.6 V fix</p> <p>If above voltage is incorrect, servo board is not correct.</p> <p>[In case of FG is correct and PG is incorrect]</p> <p>PG signal flow is incorrect. (Cylinder >> SERVO >> Servo)</p>
<div>E-52</div>	 <p>TP301 (CAP FG1)</p>	<p>Check Capstan FG at TP301.</p> <ul style="list-style-type: none"> ● Check acceleration command. <p>Confirm the V REF (IC2503 - 47 pin) is about 1.6 V.</p> <p>Confirm the CAP_ERR (TP2203) voltage is about 1.0 V at STOP condition.</p> <p>→ If it is incorrect, command signal flow is incorrect.</p> <ul style="list-style-type: none"> ● Check the FG signal does not have noise. <p>Check CAP_FG1,2 (TP301, 302) frequency is correspond with rotary speed. (about 1.58 kHz in REC/PB mode)</p> <p>→ If it is incorrect, FG signal flow is incorrect.</p>

E-44

Check that the tape is stick with the Cylinder.

Check that the tape is stick with a part of the tape pass and it causes the high tension. In this case tape may brake the Cylinder rotation.



Check Cylinder PG at pin 66 of IC2201 (TP304)

Check Cylinder FG at pin 67 of IC2201 (TP305)

[In case of FG is correct and PG is incorrect]

PG signal flow is incorrect. (Cylinder >> Servo)

[In case of both PG and FG are incorrect (Cylinder rotation is actually slow.)]

(1) Check Cylinder Unit.

Rotate the Cylinder in EJECT or UNLOAD condition. Check that the Cylinder smoothly rotate. If it is not smooth, the Cylinder unit is incorrect.

(2) Check the rotary speed detection.

Check that the CYL_FG_ (TP305) shows the pulse which is 4 pulses per rotation and the duty is 50 %, 0V/3.2V.

If it is incorrect, FG signal flow is incorrect.

(3) Check the Servo CPU outputs acceleration command.

- Check that acceleration voltage (less than 1.6 V) is output at CYL_ERR (TP204).
- Check that drive on signal which is 3.2 V at IC2506-49 pin. when it is 1.6 V, it is OFF mode.

(4) Check the Reference voltage.

Check that V REF (IC2506-47 pin) voltage is about 1.6 V.

→ If (3) or (4) is incorrect, surround circuit of CPU is incorrect.

(5) Check that Power Supply voltage.

Check that Drive IC voltage (VCC 3.2V : IC2506-54 pin) and Motor Drive voltage CYL_VM (IC2506-33 pin).

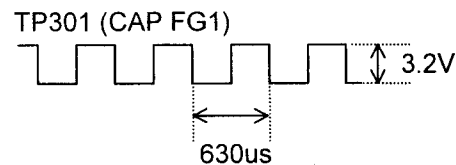
The VM is positive voltage during Cylinder ON.

→ If it is correct, between Motor Drive and Cylinder is incorrect.

Check connectors of Cylinder and Servo.

E-53

Check the tape is not stacked with the tape pass and tension is not high.
Check the mechanical load of Capstan.



Check Capstan FG at TP301.

- In case of the Capstan Motor overrunning even the message is too slow.

The FG signal which is used to detect capstan speed is not supplied to the SERVO CPU. Check the frequency at CAP_FG1,2 (TP301, 302) is correspond with the rotary speed. (about 1.58 kHz, 0/3.2 V in REC/PB mode).

Check the connectors of Capstan and Servo.

- In case of Capstan does not rotate.

(1) Check the Servo CPU supplies the acceleration command.

Check the V REF (IC2503 - 47 pin) is about 1.6V.

Check the CAP_ERR (TP2203) is acceleration command. It is below than V REF voltage. If the capstan does not rotate, the CAP_ERR voltage should be 0 V.

Check Drive ON signal (IC2503-49 pin) is 3.2V (rev) and 0V (fwd), 1.6 V (OFF).

(2) Check the Power Supply voltage.

Check the Drive IC power voltage (VCC 3.2V : IC2503 - 54 pin).

Check Motor Drive voltage CAP_VM (IC2503 - 33 pin).

(3) Check the Drive signal is supplied to Capstan motor.

Check the connectors of Capstan and Servo.

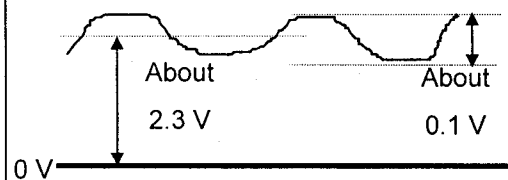
If above conditions are correct, motor or drive circuit is incorrect.

(4) Check the TSR (IC2201 - 93 pin) and FRP (IC2201 - 84 pin) signals are inputted to CPU.

E-63		<p>1. Check Reel FG waveform. Reel FG --- Refer to Reel FG Check 1 and Reel FG Check 2 Check the below signals input to Reel CPU</p> <ul style="list-style-type: none"> ● S-Reel-FG (IC2101-1 & 8 pin) ● T-Reel-FG (IC2101-9 & 68 pin) ● S-Reel-FWD-L (IC2101-11 pin) ● T-Reel-FWD-L (IC2101-12 pin) <p>[In case of abnormal condition]</p> <ul style="list-style-type: none"> ● Check loosen of connector <p>Servo board</p> <ul style="list-style-type: none"> ● Reel FG Sensor, Reel Replacement <p>2. Check Reel Drive circuit. TP2403 (S REEL ERR) and TP2543 (T REEL ERR) on SERVO board --- less than 0.5 V</p>
E-64		<p>1. Check Reel FG waveform. Reel FG --- Refer to Reel FG Check 1 and Reel FG Check 2 Check the below signals input to Reel CPU</p> <ul style="list-style-type: none"> ● S-Reel-FG (IC2101-1 & 8 pin) ● T-Reel-FG (IC2101-9 & 68 pin) ● S-Reel-FWD-L (IC2101-11 pin) ● T-Reel-FWD-L (IC2101-12 pin) <p>[In case of abnormal condition]</p> <ul style="list-style-type: none"> ● Check loosen of connector <p>Servo board</p> <ul style="list-style-type: none"> ● Reel FG Sensor, Reel Replacement <p>2. Check Reel Drive circuit. TP2403 (S REEL ERR) and TP2543 (T REEL ERR) on SERVO board --- less than 0.5 V</p>

<div data-bbox="271 280 383 336" data-label="Text">E-61</div> <div data-bbox="271 424 383 480" data-label="Text">E-62</div>		<ol style="list-style-type: none"> 1. Confirm the Reel offset adjustment. 2. Confirm the Reel Torque adjustment. 3. Confirm the Tension. 4. Check the Capstan is operated correctly (CAP mode). 5. Check the tape is beat 6. Check loosen of connector. 7. Check the Reel-Brake Solenoid are operated correctly.
<div data-bbox="271 639 383 695" data-label="Text">E-66</div>	<p>Check the problem occurred at tape beginning or tape, or other portion.</p> <div data-bbox="667 767 1171 863" data-label="Figure"> <p>DC 1.7V</p> <p>1.0Vp-p</p> </div> <ul style="list-style-type: none"> ● FG1 (IC2901 - 1 & 7 pin) ● FG2 (IC2904 - 1 & 7 pin) 	<ol style="list-style-type: none"> 1. Check Reel FG Reel FG --- Refer to Reel FG Check 1 and Reel FG Check 2 [In case of abnormal condition] <ul style="list-style-type: none"> ● Check loosen of connector Servo board <ul style="list-style-type: none"> ● Reel FG Sensor, Reel Replacement 2. Check transparent tape detection. [In case of abnormal condition] <ul style="list-style-type: none"> ● Check loosen of connector Servo board <ul style="list-style-type: none"> ● Replace sensors. 3. Check the tape is not bent.

Fig 1
REEL Position Detect



Rotate the REEL motor in EJECT mode and check the following waveform.

Servo board

P2035 - 16 TH1+

14 TH1-

12 TH2+

10 TH2-

8 TH3+

6 TH3-

P2034 - 16 SH1+

14 SH1-

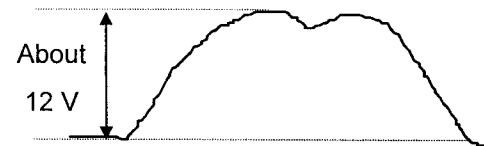
12 SH2-

10 SH3+

8 SH3+

6 SH3-

Fig. 2
REEL Drive Waveform



Select T or S_REEL_TRQ on the MENU, and rotate the REEL and confirm the following waveform is like Fig. 2.

Servo board P2035 - 13 TM3

9 TM1

19 TM1

13 SM3

9 SM1

17 SM2

SECTION 3

MAINTENANCE/DISASSEMBLY PROCEDURES & MECHANICAL ADJUSTMENT

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1 . Maintenance

1-1.Maintenance Part Chart

No	Name	Part Number	Part Using Hours (Unit hours)					
			2, 000	4, 000	6, 000	8, 000	10, 000	12, 000
	Tape Path Cleaning		△Clean the Tape Path at each 500 hours					
1	Cylinder Unit	V E G 1 4 9 8	●	●	●	●	●	◎
2	Cleaning Arm Unit	V X L 2 9 2 4	●	●	●	●	●	◎
3	Pinch Arm Unit	V X L 2 8 3 5		●■		●■		◎
4	S Reel Motor Unit	V E M 0 6 8 6			●			◎
5	T Reel Motor Unit	V E M 0 6 8 7			●			◎
6	Thrust Screw Unit	V X Q 0 5 5 6			●▲			◎
7	Front Loading Unit	V X A 6 7 5 3						●
8	Mech. Chassis Unit	V X Y 1 4 5 9 Z 1						●
9	Fan Motor	V R F 0 2 0 2	Replace the Fan Motor at each 10,000 hours <i>Operation Time</i>					

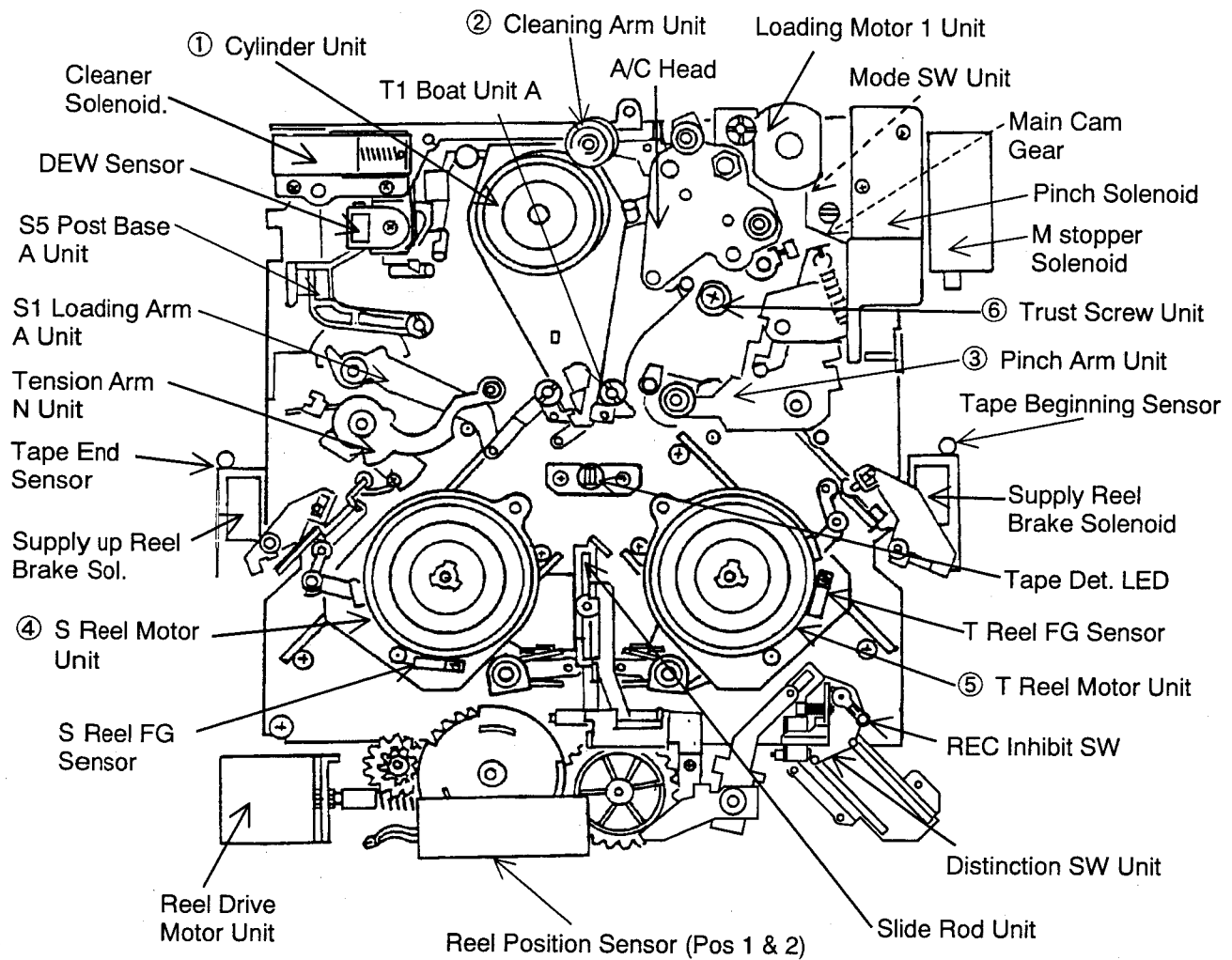
Note: Using hours are based on the head rotation hours.

Using hours are recommendation. It may depended on temperature, humidity or dusty.

Using hours are listed as the reference of maintenance. They do not mean guarantee Hours.

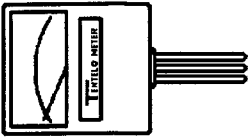
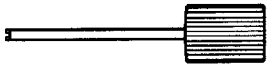
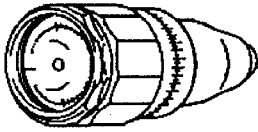
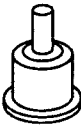
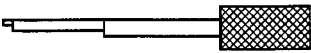

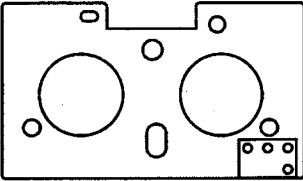

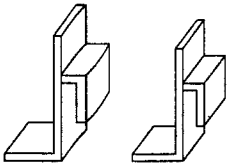
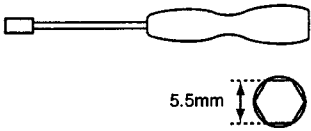
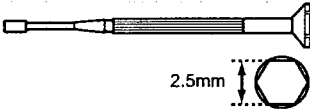
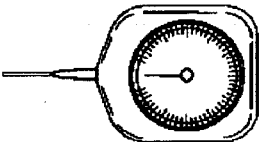

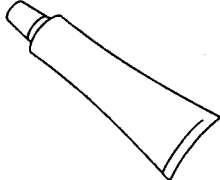
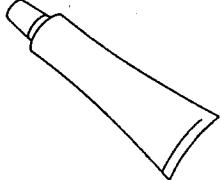
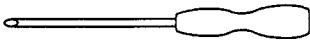
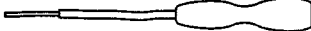
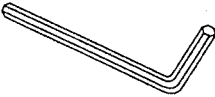
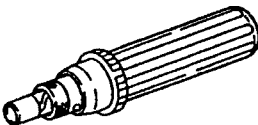
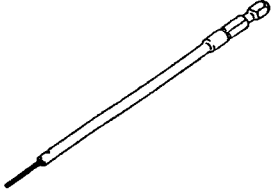
Symbol	Maintenance	Remark
●	Replacement	
◎	Replacement	These parts are included in Mech Chassis Unit
■	Greasing	Wipe the old grease and apply new grease
△	Cleaning	This mark means cleaning is necessary
▲	Lubrication	The lubrication is necessary


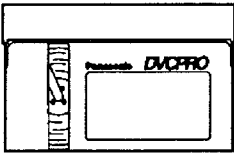
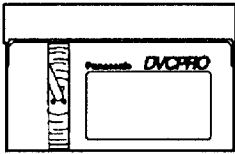
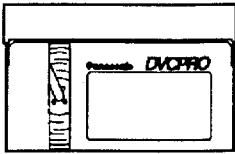
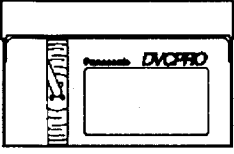
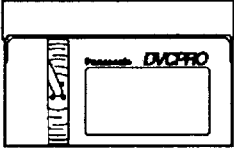
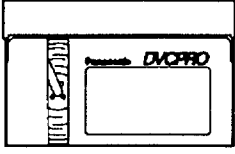
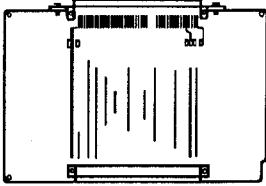

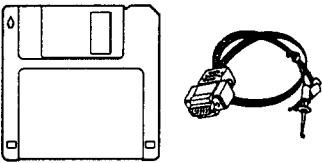
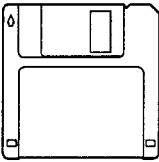
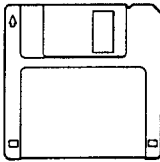
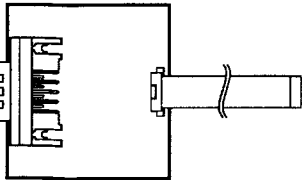
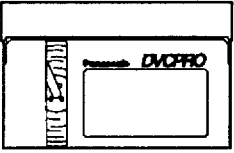
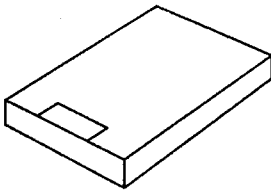

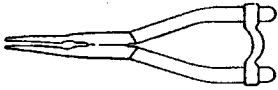
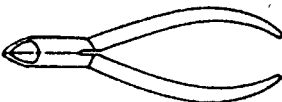
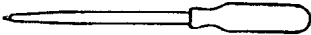
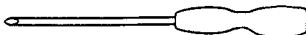
1-2. Sensors Layout



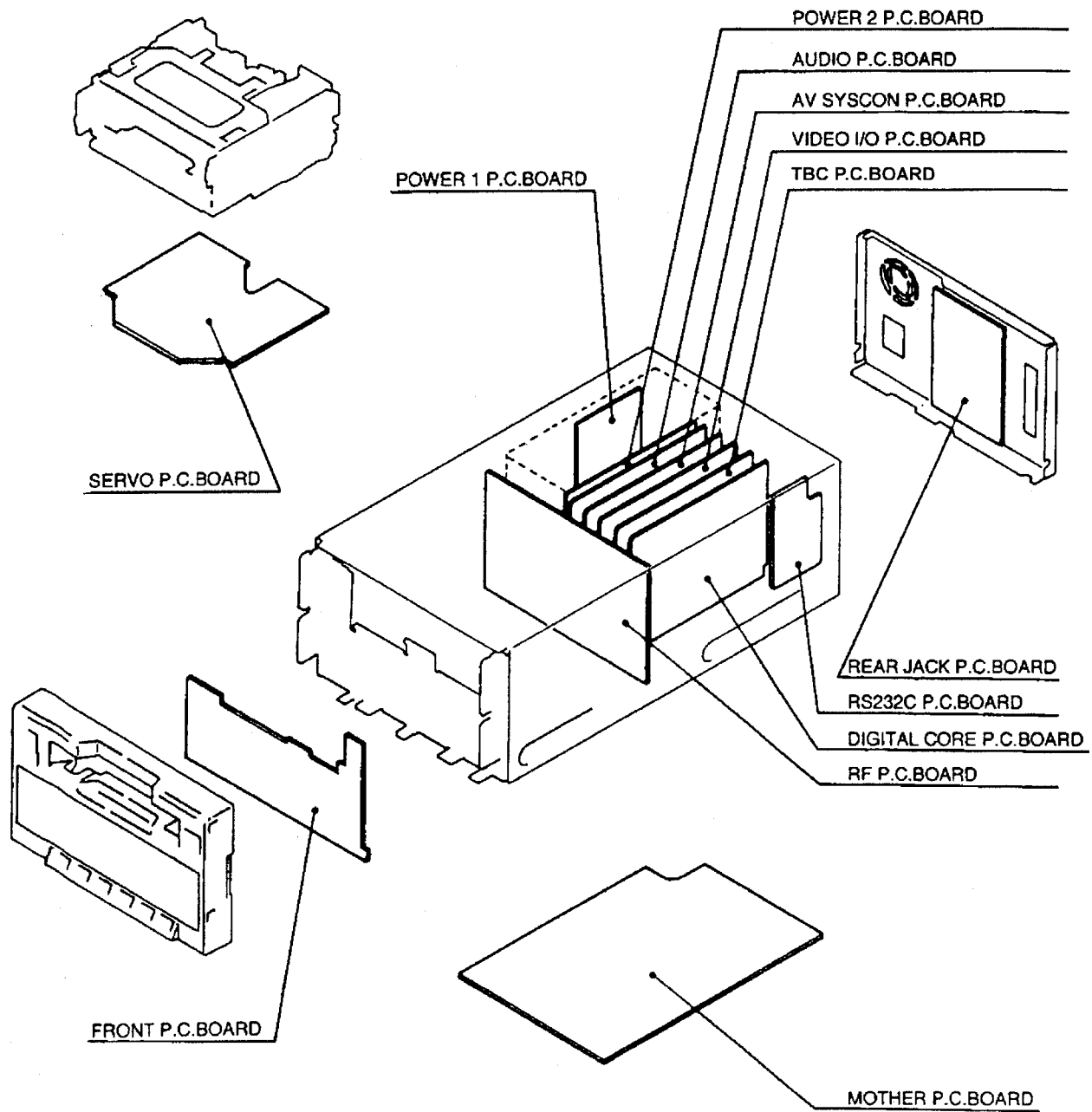
1-3. SERVICING FIXTURES & TOOLS

FIG.	PART NUMBER	FIXTURES & TOOLS	REMARKS
1	VFK1145	Back Tension Meter	
2	VFK1149	Post Driver	
3	VFK71	Dial Torque Gauge (150g)	
4	VFK1191	Dial Torque Gauge (45g)	
5	VFK1152	Torque Gauge Adapter	
6	VFK0357	Eccentric Driver (ϕ 1.5)	
7	VFK1154	Post Height Fixture	
8	VFK1153	Mechanism Neutral Plate (for Post Height)	
9	VFK0906	High Quality Oil (for Thrust Screw)	
10	VFK1155	Neutral Position Plate for REV (Silver)	
11	VFK1156	Neutral Position Plate for PLAYBACK (Black)	
12	VFK1208	Neutral Position Plate for NEUTRAL (Black with hole)	
13	VFK1150	Nut Driver (5.5mm)	
14	VFK1151	Nut Driver (2.5mm)	
15	VFK1188	Dial Tension Gauge (30g)	
16	VFK0948A	Check Light	
17	VFK0749	Froiral Grease (for Plastic Parts : White)	
18	MOR265	Morlytone Grease (for Metal Parts : Black)	
19	VFK1146	Phillips Driver (00-75)	Purchase Locally
20	VFK1147	Phillips Driver (00-100)	Purchase Locally
21	VFK1148	Hex. Driver (1.5mm)	
22	VFK1178	Hex. Driver (0.89mm)	
23	VFK1179	Hex. Driver (0.71mm)	
24	VFK1190	Hex. Wrench (1.5mm)	Purchase Locally
25	VFK1209	Torque Driver (0.4-3.0kg)	
26	VFK0912	Post Axis Driver (1.5mm) (a substitute for VFK1375)	
27	VFK1300	A/D Converter Board (DAQ-12 Quatech)	Purchase Locally
28	VFM3580KM	DVCPRO Alignment Tape	for NTSC only
29	VFM3581KM	DVCPRO Alignment Tape	for NTSC only
30	VFM3582KM	DVCPRO Alignment Tape	for NTSC only
31	VFK3680KM	DVCPRO Alignment Tape	for PAL only
32	VFK3681KM	DVCPRO Alignment Tape	for PAL only
33	VFK3682KM	DVCPRO Alignment Tape	for PAL only
34	VFK3000EDS	DV Alignment Tape (LISTA)	
35	VFK3010EDS	DV Alignment Tape (Color Bar)	for NTSC only
36	VFK3110EDS	DV Alignment Tape (Colour Bar)	for PAL only
37	AJ-CL12MP	Cleaning Tape	SALES Route
38	VFK1357	Extension Board	
39	VFK1358	Extension Cable	for A/C Head
40	VFK1481	LISTA Software	
41	VFK1186	LISTA Cable	
42	VFK1472A	RF Adjustment Software	
43	VFK1248A	Flush ROM Version Up Software	
44	VFK1304A	ROM Rewriter	
45	VFK1423	Tape Sensor Cassette (M Cassette)	
46	VZZ0095	Cleaning Cross	
47	VFK0369	Tweezers	
48	VFK0371	Radio Prier	
49	VFK0372	Cutter Prier	
50	VFK0338	Trimmer Adjustment Driver	
51	VFK0377	Phillips Diver	

<p>1 VFK1145 Back Tension Meter</p>  <p>MODEL:T2-M30-P</p>	<p>2 VFK1149 Post Driver</p> 	<p>3 VFK71 (150g) 4 VFK1191 (45g) Dial Torque Gauge</p> 	<p>5 VFK1152 Torque Gauge Adapter</p> 
<p>6 VFK0357 (ϕ 1.5) Eccentric Driver</p> 	<p>7 VFK1154 Post Height Fixture</p> 	<p>8 VFK1153 Mech. Neutral Plate (for Post Height)</p> 	<p>9 VFK0906 High Quality Oil (for Thust Screw)</p> 
<p>10 VFK1155 (REV, Silver) 11 VFK1156 (PLAY, Black) 12 VFK1208 (NEUTRAL) (Black with hole)</p>  <p>(Gold) (Black)</p>	<p>13 VFK1150 Nut Driver (5.5mm)</p>  <p>5.5mm</p>	<p>14 VFK1151 Nut Driver (2.5mm)</p>  <p>2.5mm</p>	<p>15 VFK1188 (30g) Dial Tension Gauge</p> 
<p>16 VFK0948A Check Light</p> 	<p>17 VFK0749 Froiral Grease (White) (for Plastic Parts)</p> 	<p>18 MOR265 Morlytone Grease (Black) (for Metal Parts)</p> 	<p>19 VFK1146 (00x75) 20 VFK1147 (00x100) Phillips Driver</p> 
<p>21 VFK1148 (1.5mm) 22 VFK1178 (0.89mm) 23 VFK1179 (0.71mm) Hex. Driver</p> 	<p>24 VFK1190 (1.5mm) Hex. Wrench</p> 	<p>25 VFK1209 Torque Driver (0.4~3.0kgf/cm)</p> 	<p>26 VFK0912 or VFK1375 Post Axis Driver (1.5mm)</p> 

<p>27 VFK1300 A/D Converter Board (Quatech DAQ-12)</p> 	<p>28 VFM3580KM 29 VFM3581KM 30 VFM3582KM DVCPRO Alignment Tape (for NTSC)</p> 	<p>31 VFM3580KM 32 VFM3581KM 33 VFM3582KM DVCPRO Alignment Tape (for PAL)</p> 	<p>34 VFM3000EDS DV Alignment Tape (LISTA)</p> 
<p>35 VFM 3010EDS DV Alignment Tape (Color Bar) (for NTSC)</p> 	<p>36 VFM 3110EDS DV Alignment Tape (Colour Bar) (for PAL)</p> 	<p>37 AJ-CL12MP Cleaning Tape</p> 	<p>38 VFK1357 Extension Board</p> 
<p>39 VFK1358 Extension Cable</p> 	<p>40 VFK1481 LISTA Software 41 VFK1186 LISTA Cable</p> 	<p>42 VFK1472A RF Adjustment Software</p> 	<p>43 VFK1248A Flush ROM Version Up Software</p> 
<p>44 VFK1304A ROM Rewriter</p> 	<p>45 VFK1423 Tape Sensor Cassette (M Cassette)</p> 	<p>46 VZZ0095 Cleaning Cross</p> 	<p>47 VFK0369 Tweezers</p> 
<p>48 VFK0371 Radio Prier</p> 	<p>49 VFK0372 Cutter Prier</p> 	<p>50 VFK0338 Trimmer Adjustment Driver</p> 	<p>51 VFK0377 Phillips Driver</p> 

1-4. Circuit Board Layout



1-5. Alignment Tapes

DVCPRO Alignment Tape

VFM3580KM(NTSC)

Time	Video		PCM		CUE	
(min)	Signal	Purpose	Signal	Purpose	Signal	Purpose
0:00	Color Bar SMPTE(75%)	Composite Video Level Confirmation	1kHz - 20dB	Audio Level Confirmation	1kHz 0VU	CUE Level Confirmation
7:00	Color Bar Full Field(75%)	Component Video Level Confirmation				
14:00	H Sweep	Frequency Response			6kHz 0VU	A/C Head Azimuth
18:00	Bowtie(500k)	Y/C Timing				
22:00	Pulse&Bar	Y/C Timing			-10dB, 1kHz	Frequency Response
26:00	Area Markers				50Hz~15kHz	
30:00						

VFM3581KM(NTSC)

Time(min)	Signal
0:00~20:00	ITI Pattern

VFM3582KM(NTSC)

Time(min)	Signal
0:00~10:00	X Value

VFM3680KM (PAL)

Time	Video		PCM		CUE	
(min)	Signal	Purpose	Signal	Purpose	Signal	Purpose
0:00	Color Bar 100%	Video Level Confirmation	1kHz -18dBu	Audio Level Confirmation	1kHz Reference level	CUE Level Confirmation
10:00	H Sweep	Frequency Response				
14:00	Area Markers				6kHz Reference level	A/C Head Azimuth
18:00	Bowtie(500k)	Y/C Timing				
22:00	Pulse & Bar	Y/C Timing			1kHz 300Hz~6kHz	Frequency Response
26:00	Multi Pulse	Y/C Timing				
30:00						

VFM3681KM (PAL)

Time (min)	Signal
0:00 ~ 20:00	ITI Pattern

VFM3682KM (PAL)

Time (min)	Signal
0:00 ~ 10:00	X Value

1-6. Recommended Test And Service Equipment

NTSC

Part No.	Name	Remark
TSG130A(OP.04)	Analog Component Signal Generator	TEKTRONIX
	Oscilloscope	
1750,1760(OP.SC) or 1780R	WFM Monitor	TEKTRONIX
	Digital Volt Meter	
	Frequency Counter	
	VTVM	Frequency Band Width 4Hz-500KHz
	Audio Analyzer	

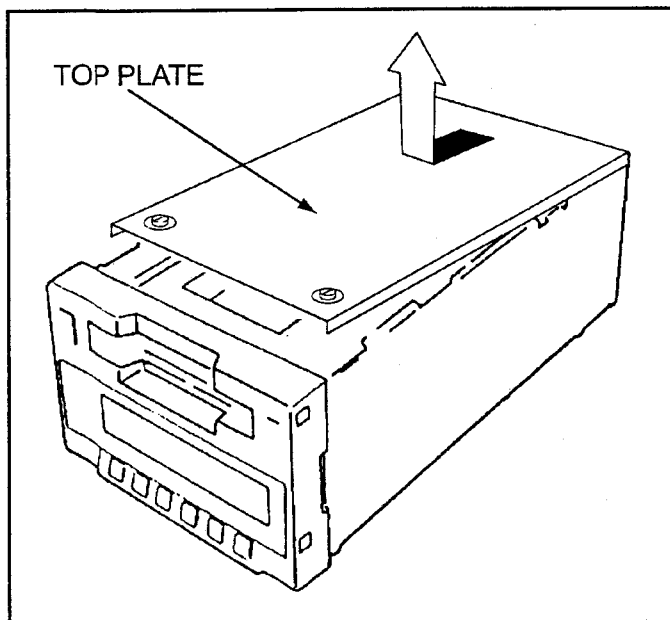
PAL

Part No.	Name	Remark
TSG131A(OP.04)	Analog Component Signal Generator	TEKTRONIX
	Oscilloscope	
1751,1761(OP.SC) or 1781R	WFM Monitor	TEKTRONIX
	Digital Volt Meter	
	Frequency Counter	
	VTVM	Frequency Band Width 4Hz-500KHz
	Audio Analyzer	

2. Disassembly Procedures

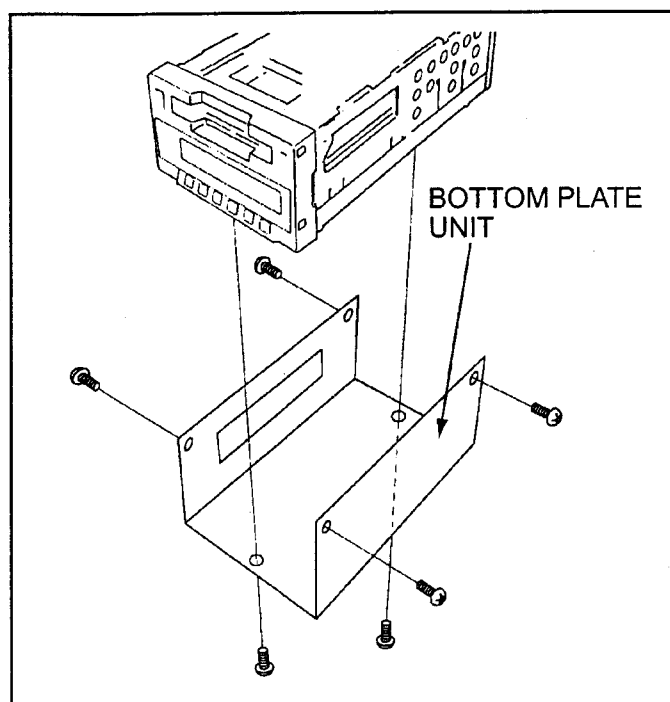
2-1. Removal of the Top Plate

1. Loosen the 2 screws on the top side of the unit.
2. Remove the Top Panel with direction of arrow.



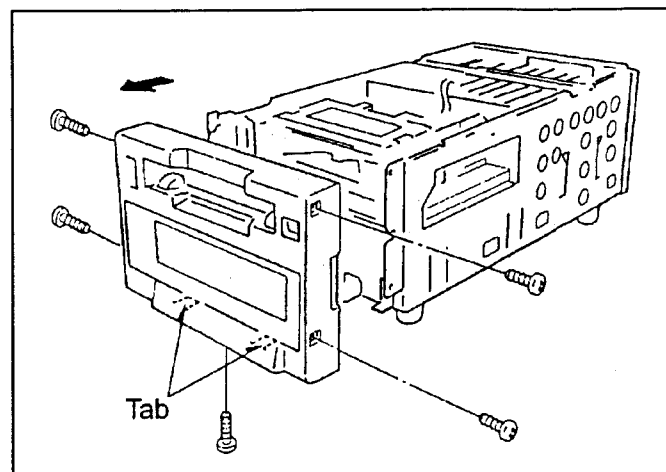
2-2. Removal of the Bottom Plate Unit

1. Unscrew the 4 screws on the both side of the unit.
2. Unscrew the 2 screws on the bottom side, and remove the Bottom Plate Unit.



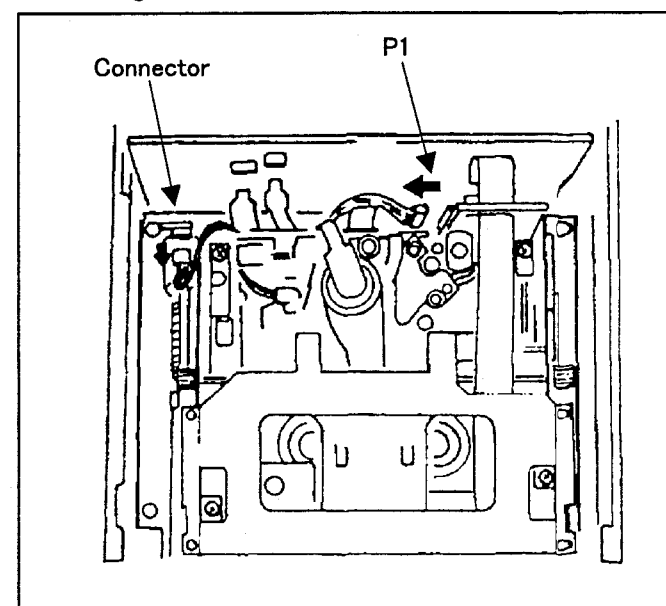
2-3. Removal of the Front Panel

1. Unscrew the 4 screws on the both side of the Front Panel.
2. Unscrew a screw on the bottom side of the Front Panel, and unlock the 2 tabs.
3. Disconnect the flat cable which is connected to MOTHER P.C.Board, and remove the Front Panel.

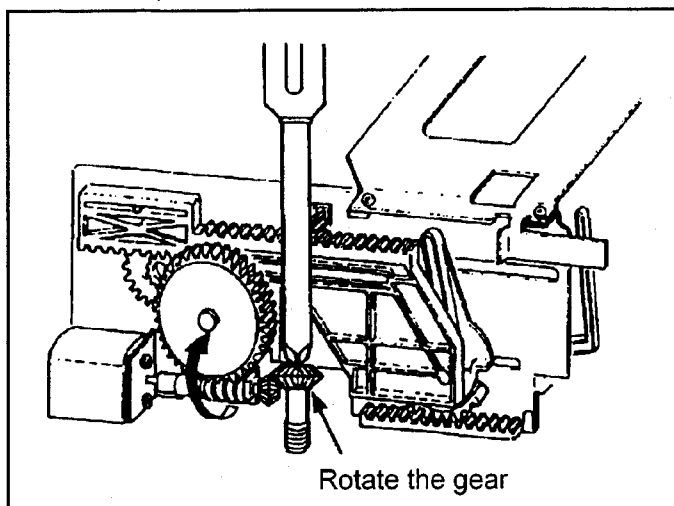


2-4. Removal of the Front Loading Unit

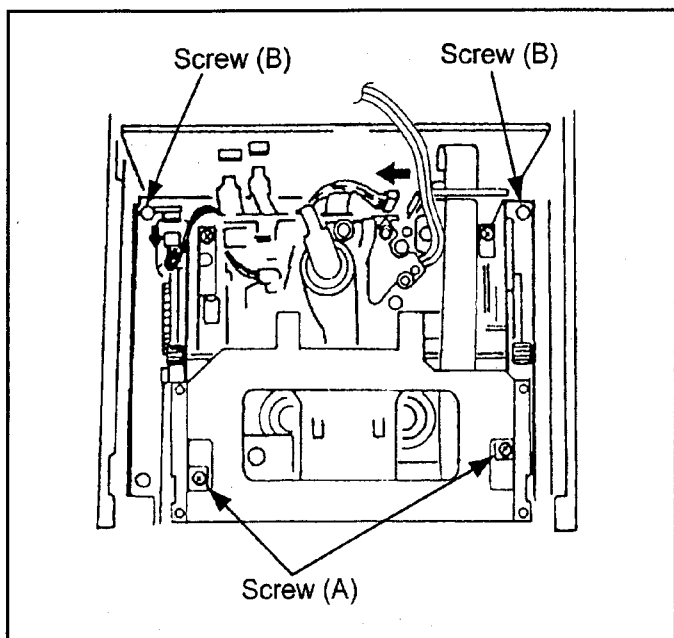
1. Disconnect the connector P1 on Carriage P.C.Board and disconnect the one connector on part of front loading motor.



4. Rotate the red plastic screw in front of the worm gear of the cassette down motor counterclockwise by a Phillips-head screwdriver pushing the screw to move the Cassette Holder unit until the 2 screws (A) can be removal position.

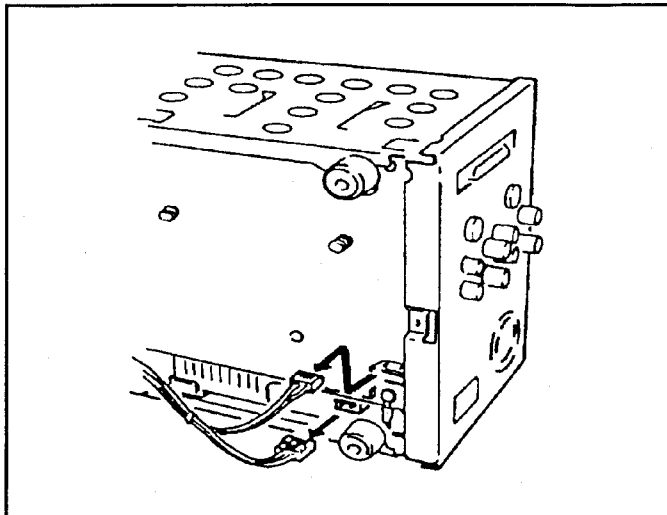


5. Unscrew the 4 screws (A) and (B), then remove the Front Loading Unit.

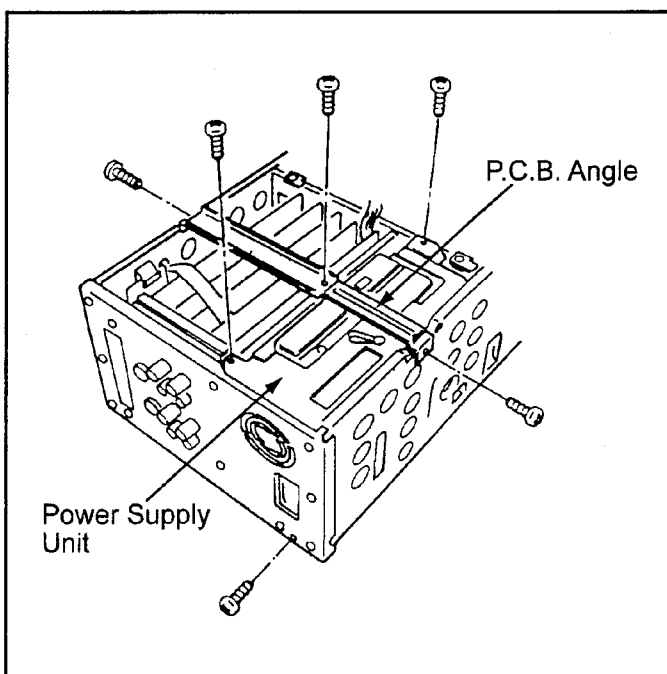


2-5. Removal of the Power Supply Unit

1. Disconnect the 2 connectors with the Power Supply Unit on the bottom side of the unit.

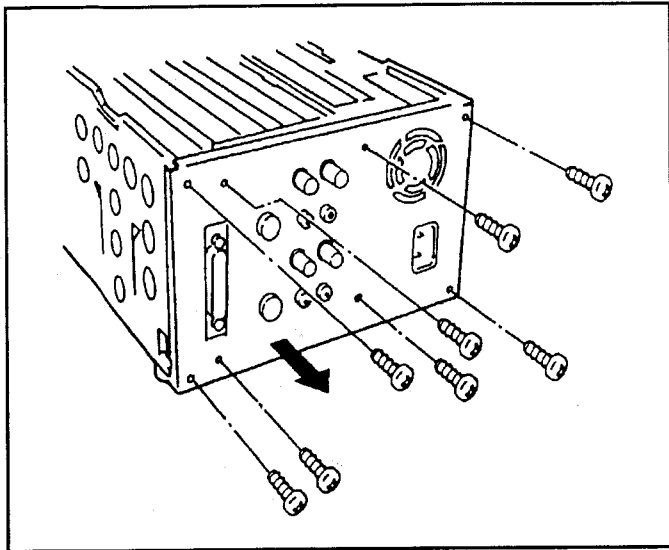


2. Unscrew the 3 screws with the P.C.Board Angle on the top side of the unit.
3. Unscrew a screw on the Rear Jack Plate and 2 screws with the Power Supply Unit on the top side of the unit.



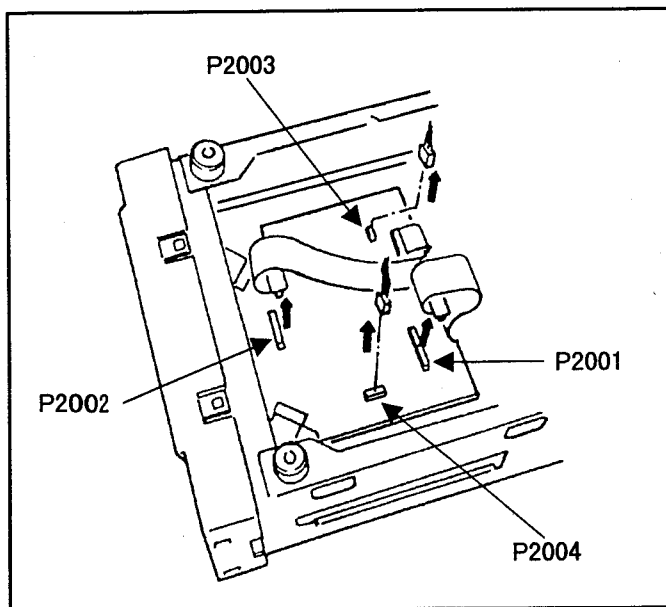
2-6. Removal of the Rear Jack Plate

1. Unscrew the 8 screws with the Rear Jack Plate on the rear side of the unit.

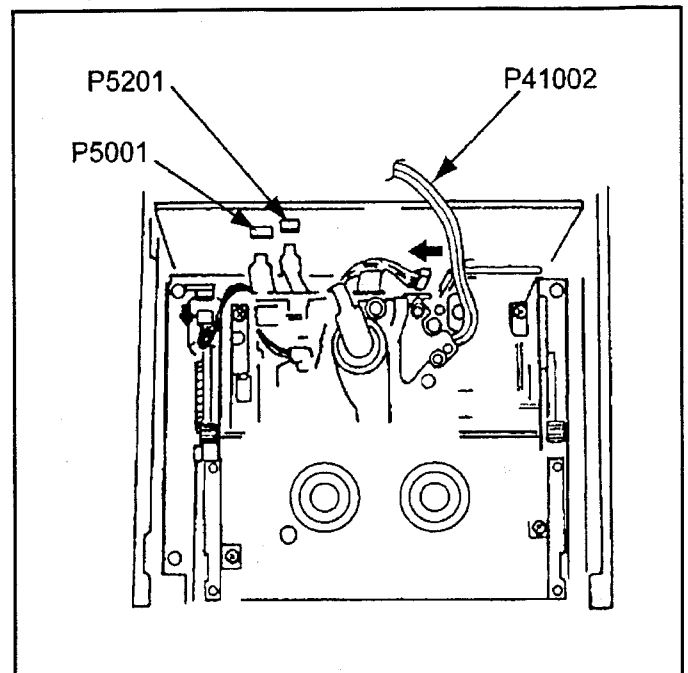


2-7. Removal of the Mechanism Unit

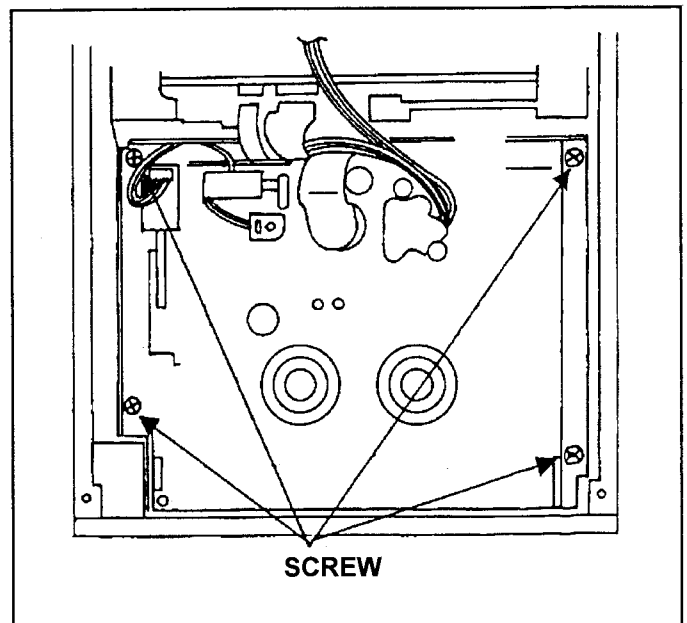
1. Remove the Front Loading Unit.
2. Remove the Bottom Plate Unit.
3. Disconnect the connector P2001, P2002, P2003 and P2004 on the Servo P.C.Board.



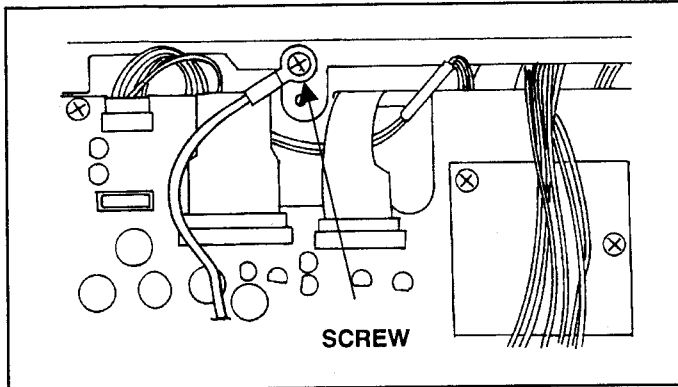
4. Disconnect the connector P41002 on AUDIO P.C.Board, which connected between A/C Head and AUDIO P.C.Board.
5. Disconnect the connector P5001 and P5201 on RF AMP P.C.Board, which are connected between the Cylinder Unit and the RF P.C.Board.



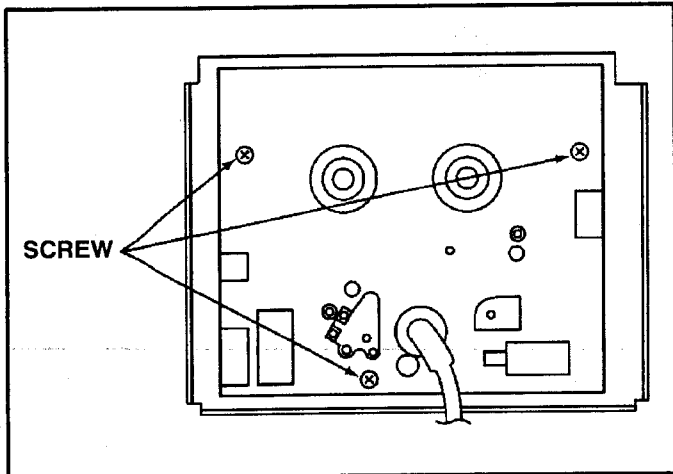
6. Unscrew the 4 screws on the Plate, which plate installed Mech Chassis Unit. And remove the Mech Chassis Unit with Plate from VTR.



7. Unscrew one screw, which fixed earth cable from Servo P.C.Board.

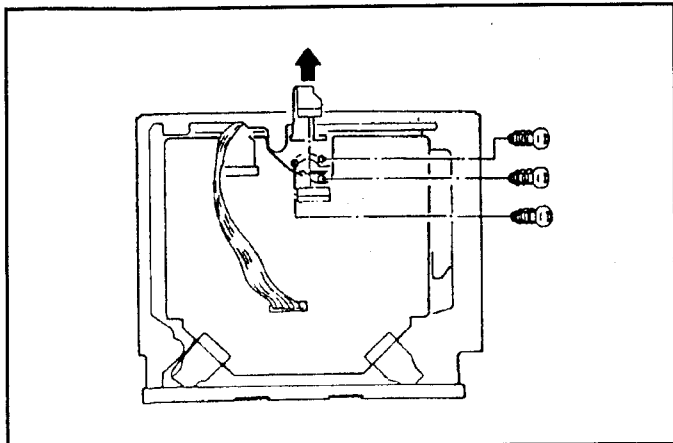


8. Unscrew 3 screws, which fixed Mech Chassis Unit to Plate and Remove the Mech Chassis Unit.

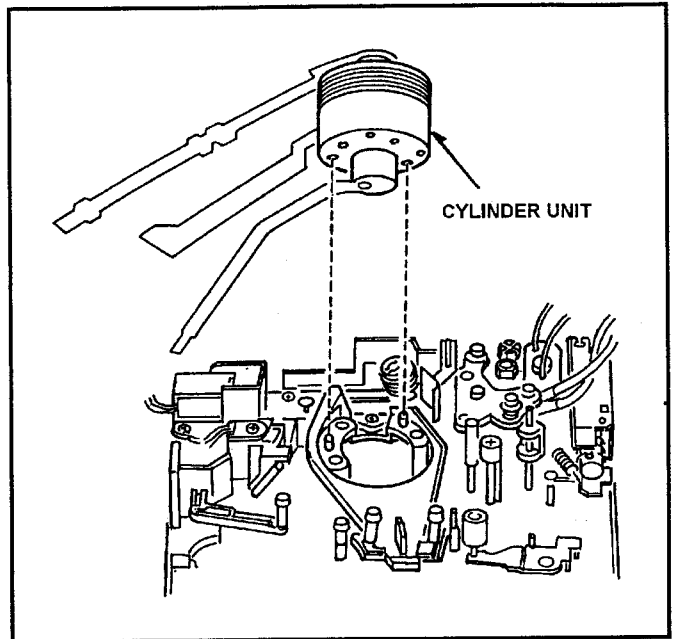


2-8. Removal of the Cylinder Unit

1. Please operate follow the item number 1 to 6 on explanation of "2-7. Removal of Mech Chassis Unit".
2. Remove the T1 Guide.
3. Disconnect the connector P2033 on Servo P.C.Board. and unscrew 3 screws, which have spring from the Cylinder Unit.

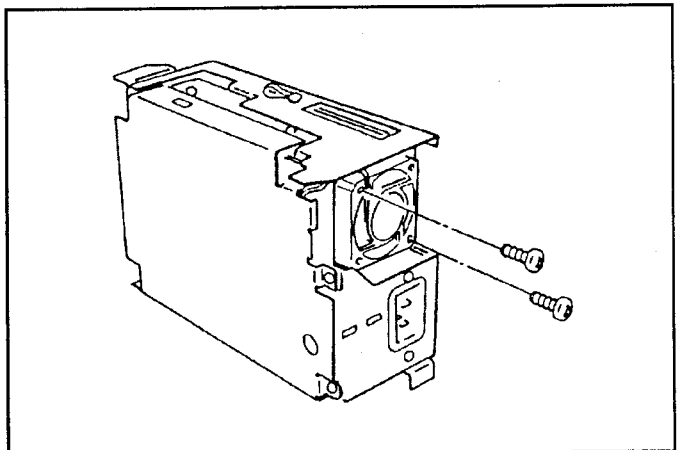


4. Unscrew one screw, which fixed flexible cable from top of Cylinder unit. And remove the Cylinder unit without touching any mechanical parts.



2-9. Removal of the Fan Motor Unit

1. Remove the Rear Jack Plate.
2. Unscrew the 2 screws.
3. Disconnect the connector which is connected to the POWER P.C.Board, then remove the Fan Motor Unit.



3. Manual Tape Eject

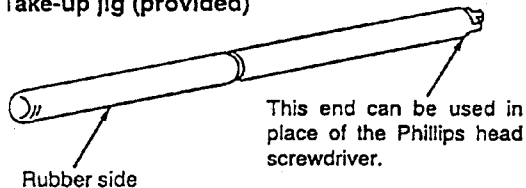
When a tape can not be ejected, because of Power failure or mechanical tape damage, remove the tape manually.

1. Turns power off and remove the top Case Unit.
2. Rotate the red plastic screw by a Phillips - head screwdriver counterclockwise pushing the screw. It needs to rotate about 30 times rotation until starting to move.
3. Since tape slack will develop when the post is unloaded, wind up the supply reel to take up the slack.

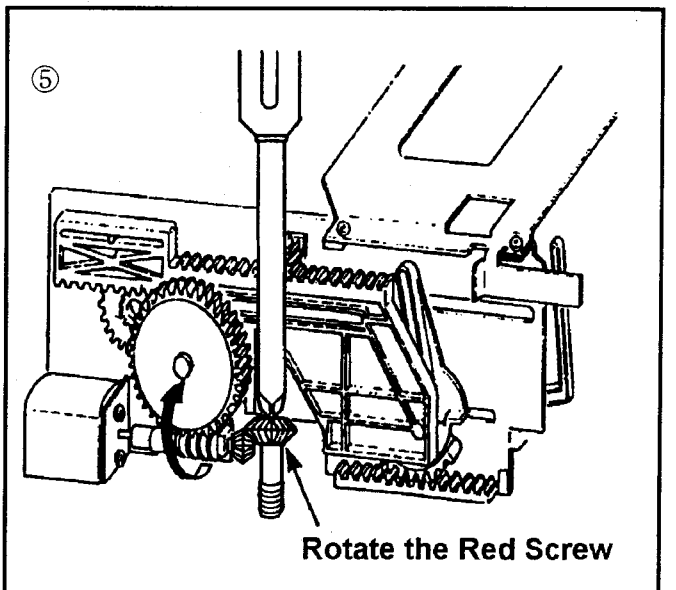
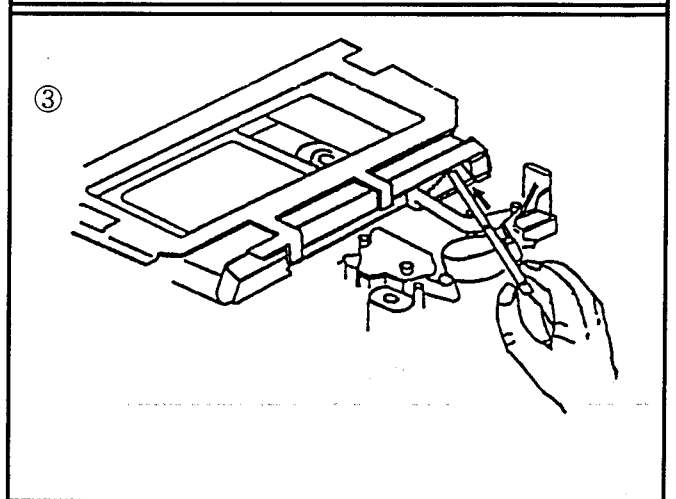
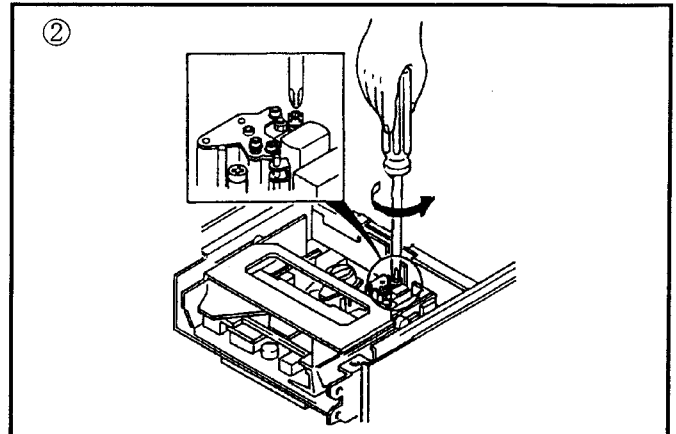
How to take up the slack (see ③)

- a. Insert the rubber side of the take-up jig into the cassette tape withdrawal opening on the VTR's mechanism side.
- b. Turn the flange part of the supply reel in the direction of take-up to take up the tape slack. (Take care not to damage the tape in the process.)

Take-up jig (provided)



4. Repeat item 2 and 3 until the tape is wound Completely inside of the cassette.
5. When the tape is completely inside of the cassette, rotate the red screw in front of the worm gear of the cassette down motor clockwise by a Philips-head screwdriver pushing the screw and remove the cassette cover does not bite the tape when the cover is closed.



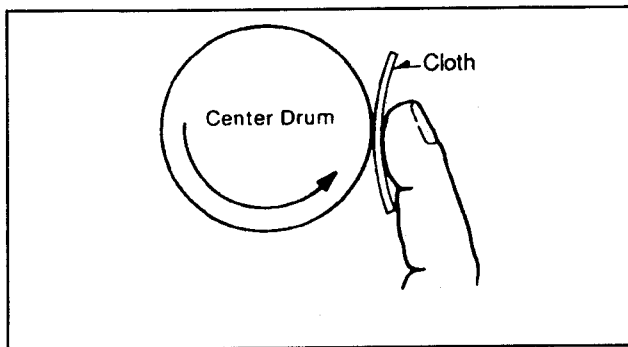
4. Cleaning Procedures

Note: Turns power off during cleaning.

Make sure the power is OFF before cleaning.
Use ethanol (more than 99% purity) as cleaning liquid.

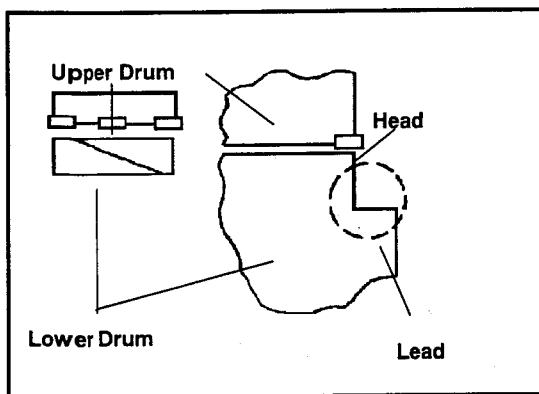
4-1 Cleaning of Head Chips: (Daily)

Clean heads by applying even pressure and rotating cylinder a few times. Never wipe in up and down motion. Never touch a cylinder by naked hand. First wipe with a cloth soaked by cleaning liquid. Then wipe with dry cloth.



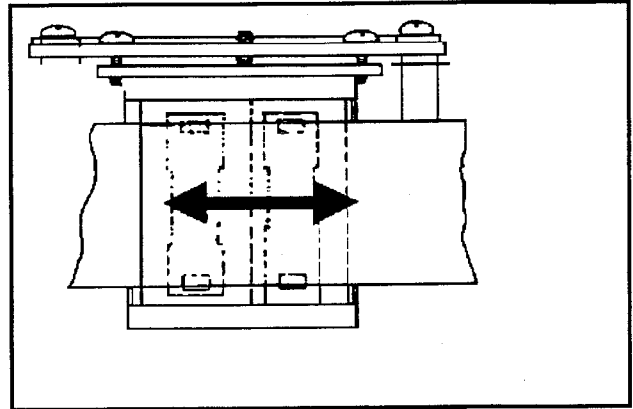
4-2. Cleaning of Drum Lead: (Weekly)

Be careful not to touch a head chip. Clean the drum lead with a pick.



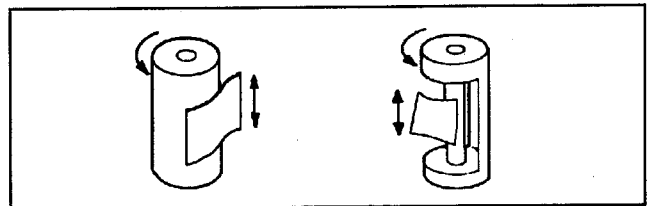
4-3. Cleaning of A/C Head: (Weekly)

Wipe the A/C head with a cloth soaked by cleaning liquid. Wipe again with a dry cloth.



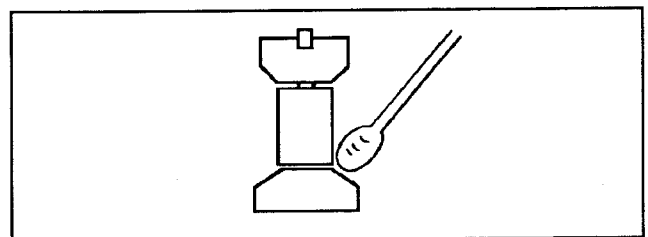
4-4. Cleaning of Pinch Roller and Capstan: (Weekly)

Wipe the Pinch Roller and Capstan with a cloth soaked by cleaning liquid.



4-5. Cleaning of Post : (Weekly)

Wind a cloth on a pick. Wipe each post dry with that pick. Wipe again with a dry cloth. For metal posts wipe with cleaning liquid. Then wipe dry again.



Note:

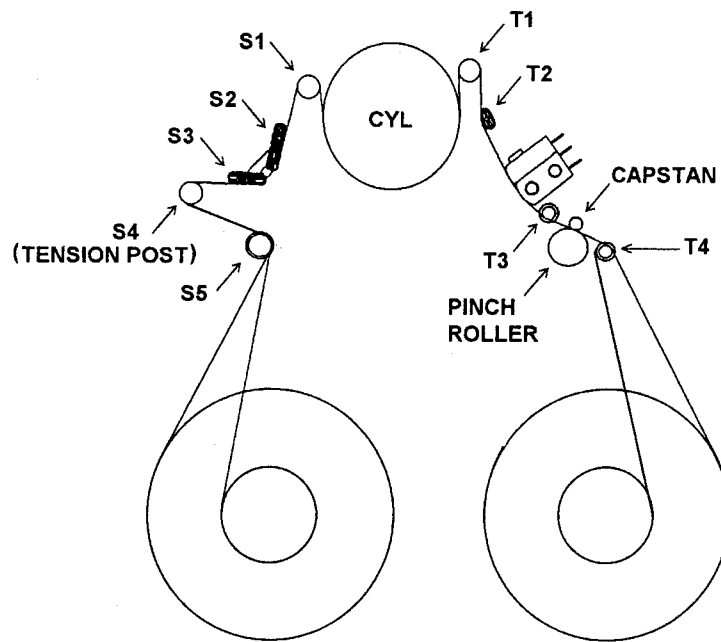
Use the clean cloth for cleaning purpose. Do not use any dirty cloth.

The Cleaning Cloth can be ordered as spare part. The part number indicated as below.

CLEANING CLOTH : VZZ0095

5. Mechanical Adjustment

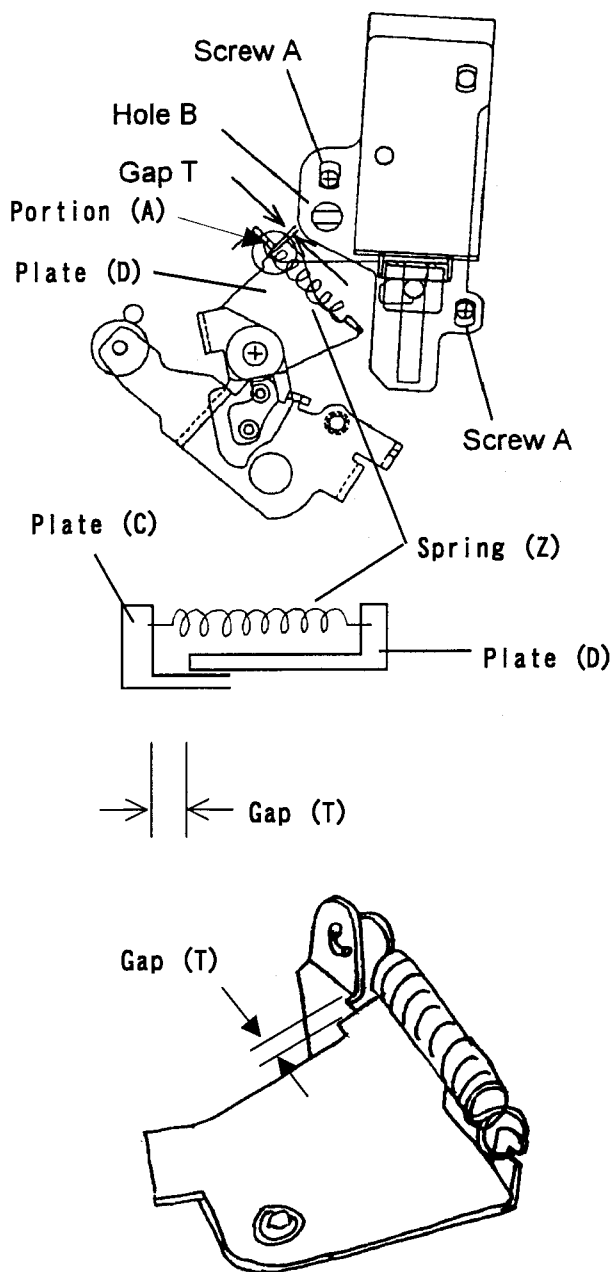
5-1. Name of tape transportation



5-2. Pinch Solenoid Position Adjustment

SPEC.	T = 0.3mm
TEST POINT	Gap T
ADJUSTMEN	Screw(A), Hole(B)
MODE	EJECT (Power OFF)
TOOL	VFK0357(Eccentric Driver)

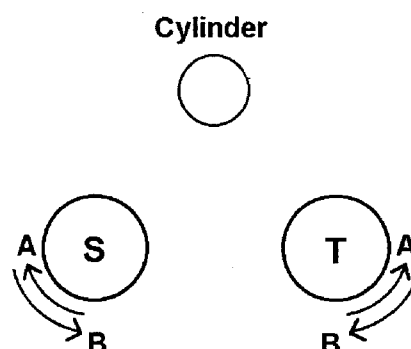
1. Confirm the power of condition at VTR.
2. Push the pinch roller by hand to be close to capstan.
3. Push the pinch solenoid by hand so that the pinch roller contacts capstan.
4. Loosen the two screws (A) and adjust the hole (B) by VFK0357 so that gap (T) is within specification.
5. The position for confirm Gap, which is located spring scratch to Plate (C) side.



5-3. Main Brake Torque Confirmation

SPEC	Direction A = $40 \pm 20 \text{ g} \cdot \text{cm}$ Direction B = $20 \pm 10 \text{ g} \cdot \text{cm}$
TEST POINT	S reel, T Reel
MODE	EJECT (POWER OFF)
TOOL	VFK71(150g), VFK1191(45g), VFK1152

1. Remove the Cassette Up Unit.
2. Install the adapter(VFK1152) to the torque gauge (VFK71).
3. Put the torque gauge on **S Reel** and Turn the torque gauge to **direction A** until **S Reel** slips against brake.
4. Confirm the torque is within specification.
5. Put the torque gauge on **T Reel** and turn the torque gauge to **direction A** until **T Reel** slips against brake.
6. Confirm the torque is within specification
7. Install the adapter(VFK1152) to the torque gauge (VFK1191).
8. Put the torque gauge on **S Reel** and turn the torque gauge to **direction B** until **S Reel** slips against brake.
9. Confirm the torque is within specification.
10. Put the torque gauge on **T Reel** and turn the torque gauge to **direction B** until **T Reel** slips against brake.
11. Confirm the torque is within specification.



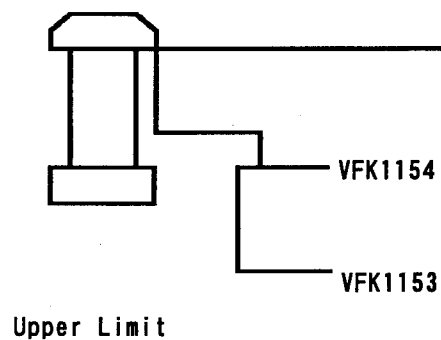
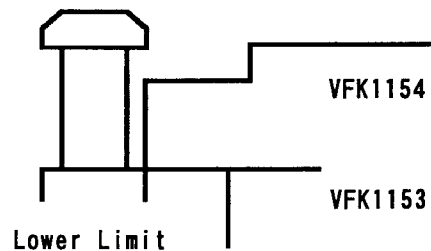
5-4. Post Height Pre-adjustment

MODE	EJECT (POWER OFF)
TOOL	VFK1153, VFK1154 (Flange Tool)

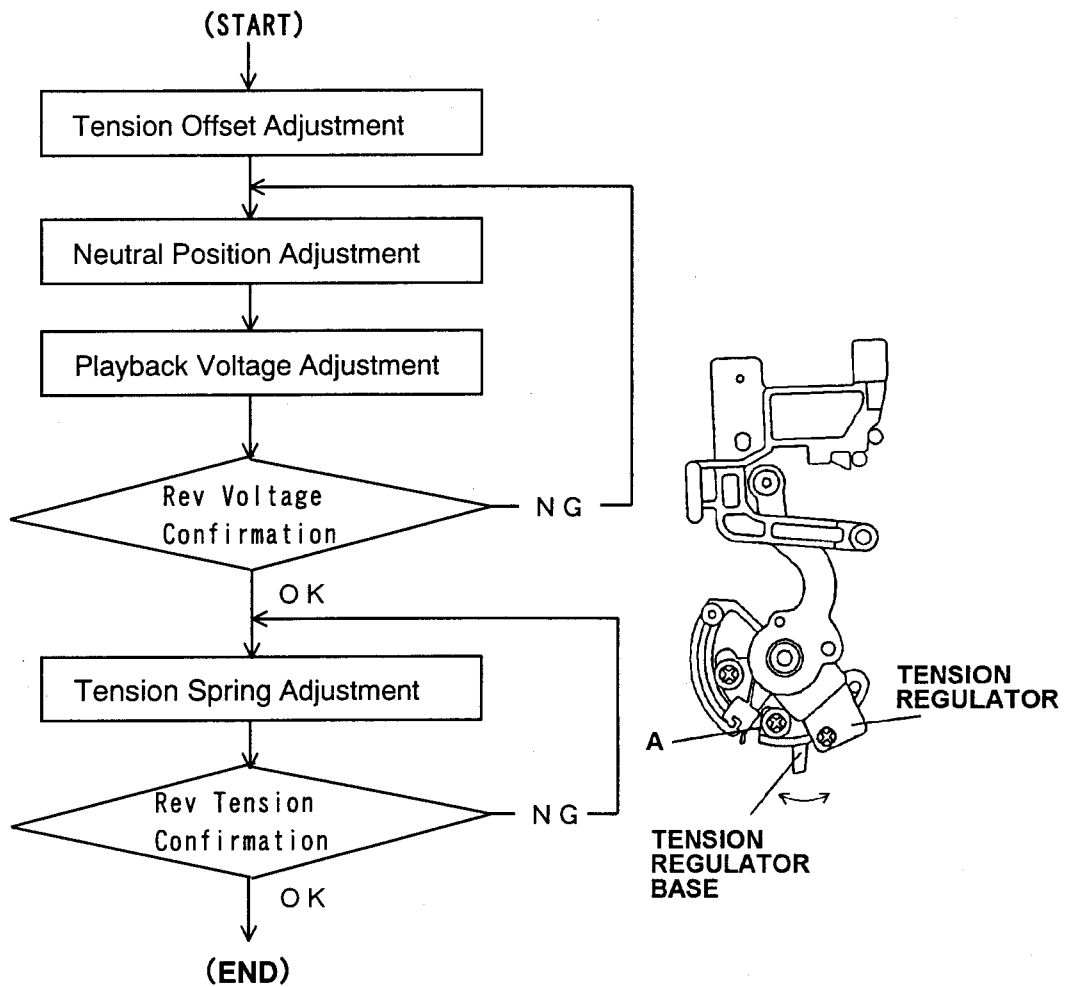
1. Confirm that the Reel Table is located at M-Cassette position.
2. Install the Mech. Neutral Plate (VFK1153) and adjust each post height as shown in figure.
3. Adjust the each post to Lower limit by VFK1154 as shown in figure.
4. VFK1149 use for Post height adjustment of S4 and S5 post. VFK1151 use for Post height adjustment of T3 and T4 post.

Post	Limit	Post Driver
S5 Post	Lower*	VFK1149
S4 Post	Lower*	VFK1149
T3 Post	Lower	VFK1151(2.5mm Nut Driver)
T4 Post	Lower	VFK1151(2.5mm Nut Driver)

Note: Lower* : Turn S4 and S5 posts 1 round more counterclockwise from lower limit position.



5-5. Tension Adjustment Flowchart



5-6. Tension Offset Adjustment

BOARD	RF
SPEC	$2.5 \pm 0.05V$
TEST POINT	TP5901 (TP901 on RF Board.)
ADJUSTMENT	A05:TENSION OFST (SERVO ADJUST)
MODE	EJECT
TOOL	Digital Volt Meter

1. Open the SERVO ADJUST menu on Service menu and select the item "A05:TENSION OFST"
2. adjust the EVR(A05:TENSION OFST) so that the DC voltage at TP901 is within specification.

5-7. Tension Arm Neutral Position Adjustment

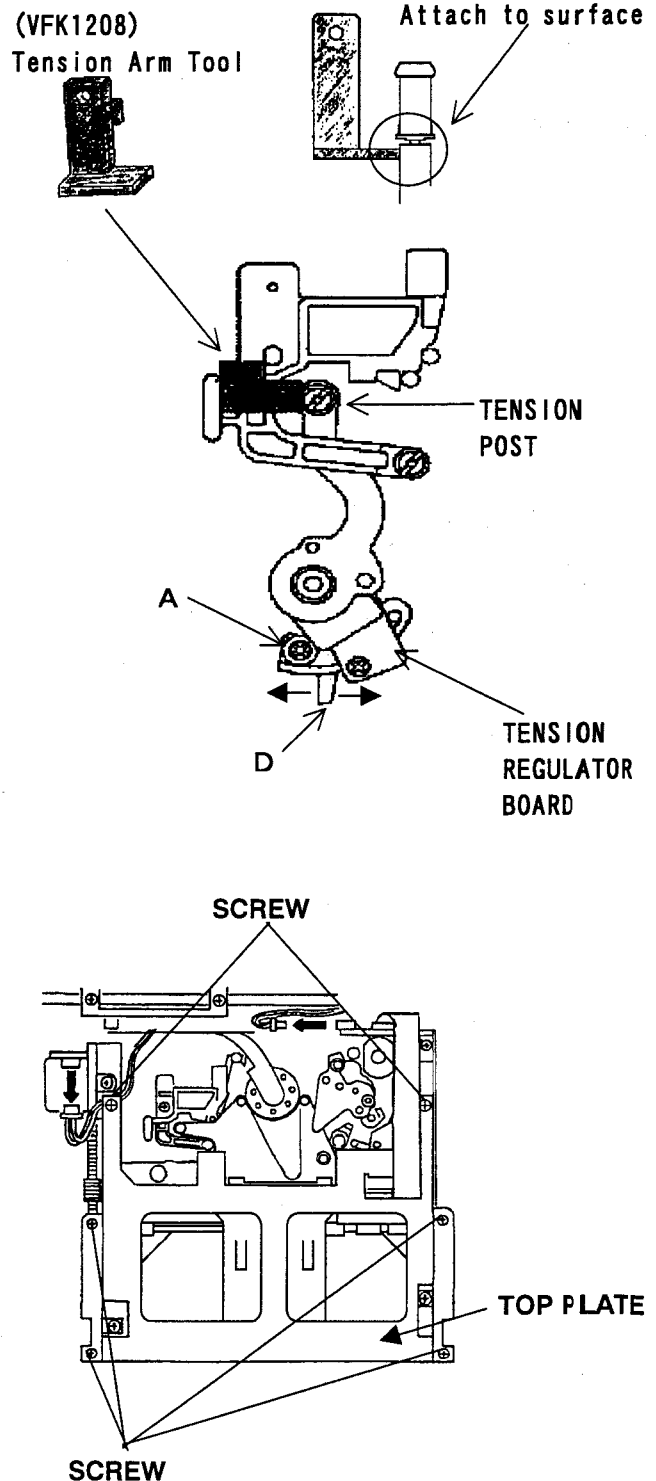
BOARD	RF
SPEC	$2.5 \pm 0.1V$
TEST POINT	TP5901(TP901 on RF Board)
ADJUSTMENT	Base position of Tension Regulator Board
MODE	STOP
TOOL	Digital Volt Meter VFK1208 (Black, with hole)

1. Unscrew the 2 screws and remove the Carriage Support Panel on the Front Loading Unit.
2. Disconnect the connector P3 on the Carriage Board of the Front Loading Unit..
3. Unscrew the 6 screws and remove the Top Plate on the Front Loading Unit.
4. Install the VFK1208(black with hole) as shown in figure
5. Connect the Digital Volt Meter to Test point.
6. Place the unit into the no tape loading mode(Refer to No tape loading mode procedure as mentioned as below.
7. Loosen the screw (A) and move the lever (D) with tweezers for adjust the sensor position so that the DC voltage at TP901 is within specification.

[No tape loading procedures]

Open the SERVO ADJUST menu on the Service menu and select the "A05:TENSION OFST". Press [BIGIN] button, then loading is started. During adjustment, keep loading condition. (After finish Adjustment ,press [BIGIN] button again to unloading action.)

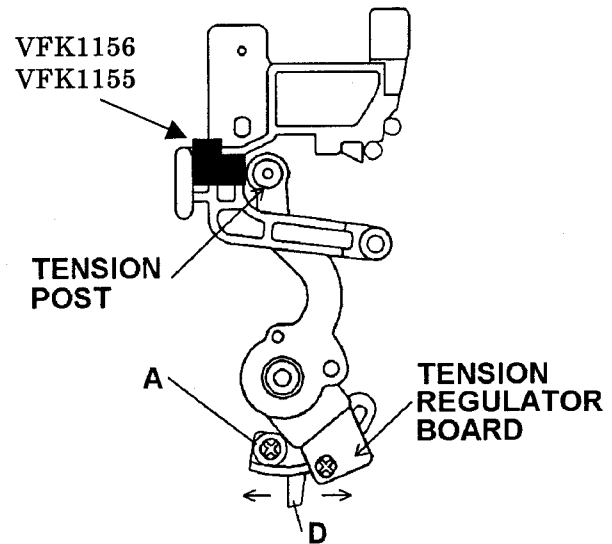
CAUTION: 1. Do not use magnetized tweezers and Screw driver.
2. Do not touch the magnetize Screw driver to S-Reel FG magnet portion, when the lever (D) portion is adjusting.



5-8. Tension Arm PLAY and REV voltage adjustment

BOARD	RF
SPEC	(PLAY) $3.8 \pm 0.05V$ (REV) $1.2 \pm 0.3V$
TEST POINT	TP5901 (TP901 on RF Board)
ADJUSTMENT	VR9501 (VR501 on Mother Board)
MODE	STOP
TOOL	Digital Volt Meter VFK1156 (Black: for PLAY position) VFK1155 (White: for REV position)

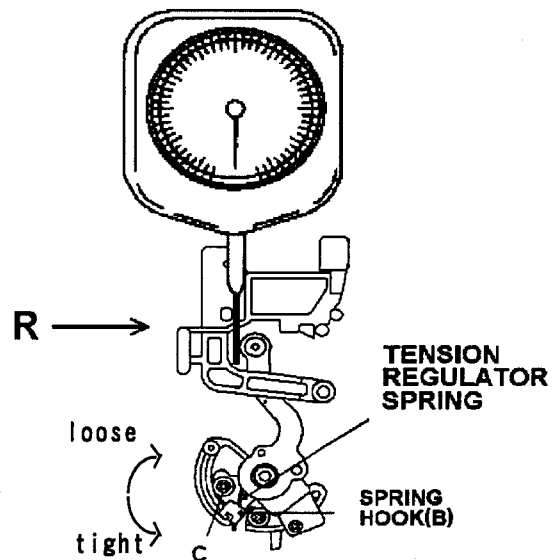
1. Install the VFK1156 (black) as shown in figure.
2. Connect the Digital Volt Meter to Test point.
3. Place the unit into no tape loading mode.
4. Adjust the VR501 so that the DC voltage at TP901 is within specification (PLAY).
5. Install the VFK1155 as shown in figure and confirm that the DC voltage at TP901 is within specification (REV).
6. If it out of spec, perform the Neutral Position adjustment again.



5-9. Tension Regulator Spring Adjustment

BOARD	RF
SPEC	$11 \pm 1\text{gf}$
TEST POINT	TP5901 (TP901 on RF Board)
ADJUSTMENT	Tension Regulator Spring hook (B)
MODE	STOP
TOOL	Digital Volt Meter VFK1188(30g Dial Tension Gauge)

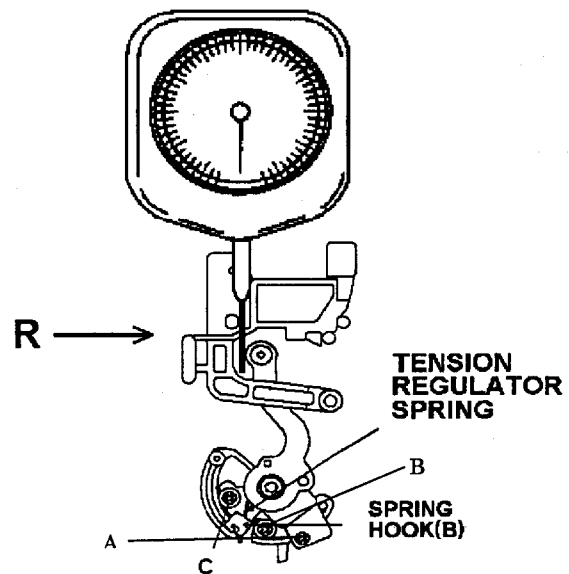
1. Connect the Digital Volt Meter to Test point.
2. Place the VTR into no tape loading mode.
3. Insert the tension gauge to push the tension post to the direction R until the voltage at the TP901 is 3.8V (PLAY position)
4. Loosen the screw (C) and adjust the position of hook (B) so that the indication of gauge is within specification..



5-10. REV Tension Confirmation

BOARD	RF
SPEC.	$18 \pm 2\text{gf}$
TEST POINT	TP201(SERVO:F1)
MODE	STOP
M.EQ	Digital Volt Meter VFK1188(30g Dial Tension Gauge)

1. Connect the Digital Volt Meter to Test point.
2. Place the VTR into no tape loading mode.
3. Insert the tension gauge to push the tension post to the direction R until the voltage at the TP901 is 1.2V (REV position)
4. Confirm that the indication of gauge is within specification. If not, make the Tension Spring Adjustment again.
5. After finish this adjustment , grew the screw A,B and C . The grew quantity at B is half of A and C.

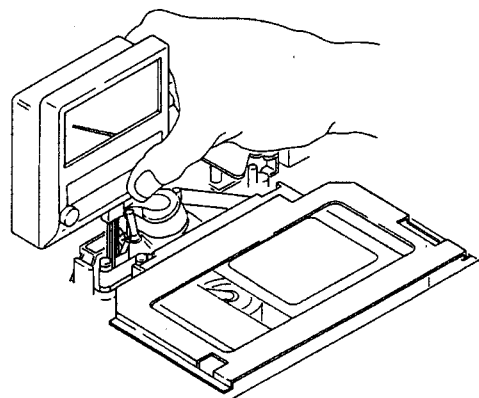


5-11. Tension Confirmation

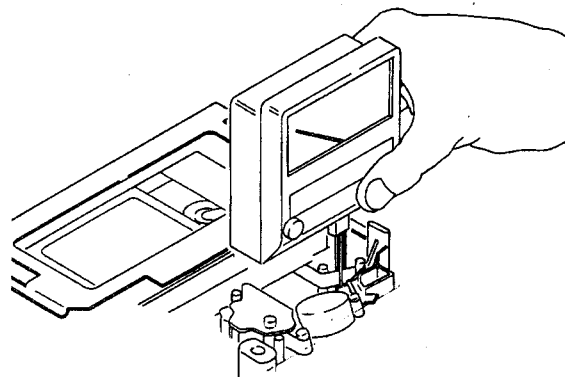
SPEC	(PLAY) $6.0 \pm 1\text{gf}$ (REV) $9.0 \pm 2\text{gf}$
MODE	PLAY, REV $\times 1$
TAPE	63 min M size Blank Tape
TOOL	VFK1145(Tension Meter)

1. Play back beginning portion of the tape.
2. Insert the tension meter between **S3 post** and **S4 post**. (Refer to figure).
3. Confirm the tension is within specification.
4. Place the unit in REV mode.
5. Insert the tension meter between **S4 post** and **S5 post**. (Refer to figure)
6. Confirm the tension is within specification.

NOTE: Be careful not to give some tape damage.

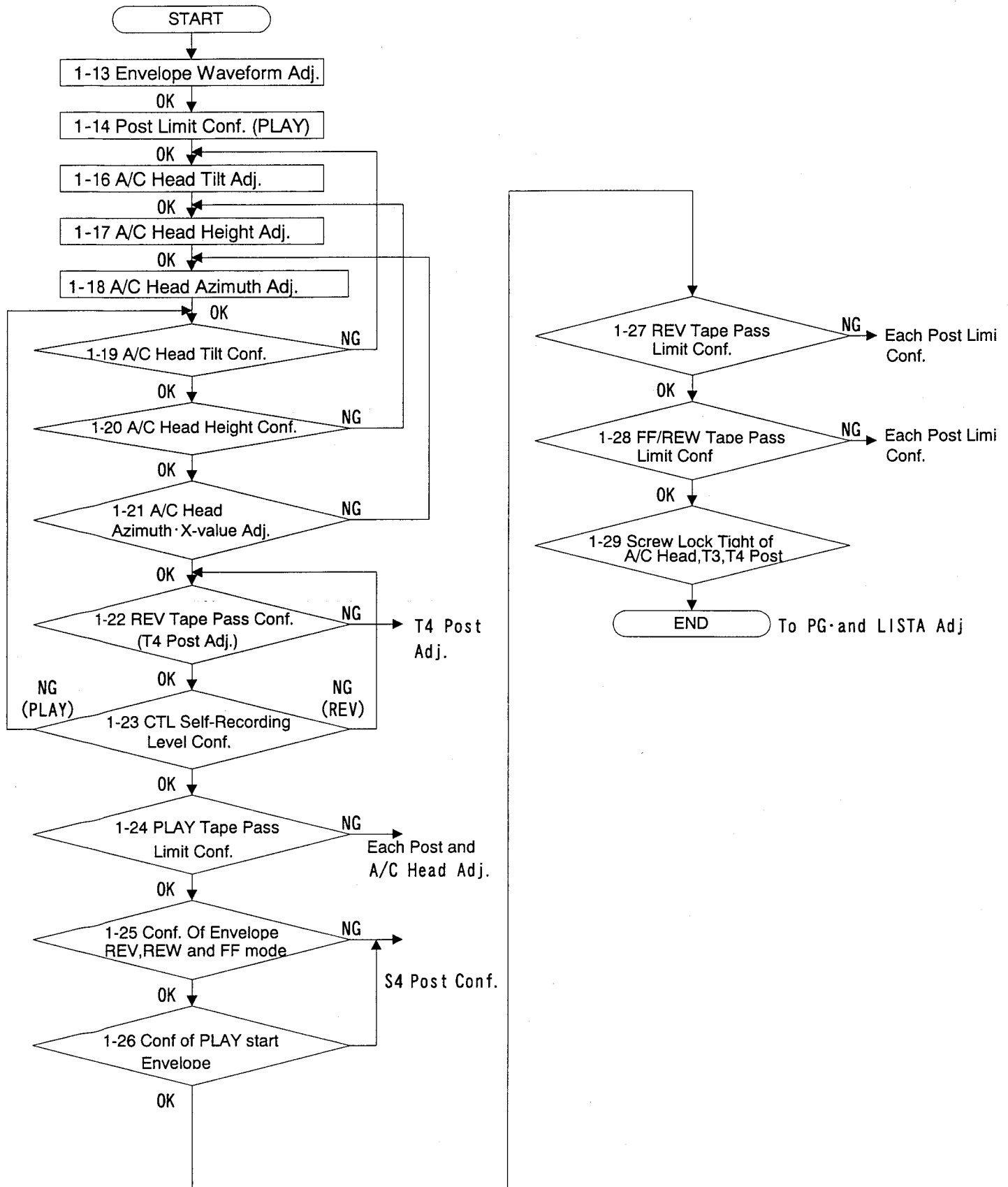


Play Tension



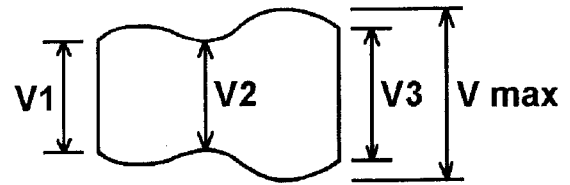
Rev Tension

5-12. Tape Pass Adjustment Procedure



5-13. Envelope Waveform Adjustment

SPEC	$V1/V_{max}, V2/V_{max}, V3/V_{max} \geq 0.8$
TEST POINT	TP5251:R/P ENV (TP251 on RF Board.) (RP ENV is selected by Service menu) TP5759:TRIG(TP759 on RF Board.)
ADJUSTMENT	S1, T1 Post Height
MODE	PLAY(ATF)
TAPE	NTSC: VFM3580KM PAL: VFM3680KM
M.EQ	Oscilloscope
TOOL	VFK1149(Post Driver)



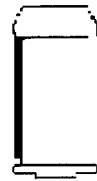
1. Open the MODE SELECT menu on Service menu and set the item "B05 PB HEAD" to "RP"(counter displayed 00001).
2. Playback the alignment tape.
3. Adjust S1 and T1 post height so that the R/P envelope output is within the specification.
4. When the S1 and T1 posts are adjusted, first raise the post height and make small the entrance and exit side of the envelope, then down the post until envelope becomes flat.
5. With order to adjustment, basically adjust T1 post for makes flat at exit side of envelope first and adjust S1 post.
6. After finish this adjustment, unload the tape and load the tape again, then confirm the shape of Envelope waveform does not changed.

5-14 Post Limit Confirmation (PLAY)

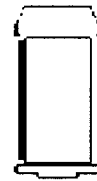
SPEC	Post limit shown in the table No tape curl
MODE	PLAY
TAPE	Blank Tape
TOOL	VFK1149(Post Driver) VFK1151(Nut Driver)

1. Confirm that the tape pass limit follow the as shown as below table and adjust it in case of need.
2. Confirm that the kinds of D、E and F condition do not appeared on the tape as shown in figure.

Post	Limit	Adjustment
S5	Lower limit or Free	S5 Post Height
S4	Lower Limit	S4 Post Height
S1	Upper Limit	Envelope waveform
T1	Upper Limit	Envelope waveform
T3	Lower Limit	T3 Post Height
T4	Lower limit or Free	T4 Post Height



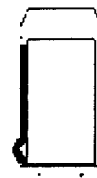
A: UPPER



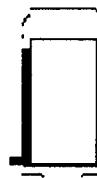
B: FREE



C: LOWER



D: Curl



E: Bend



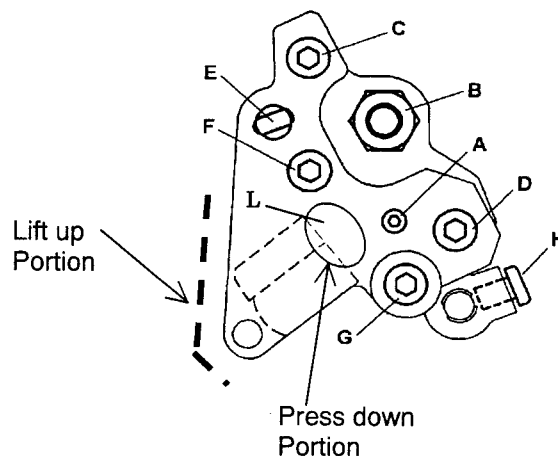
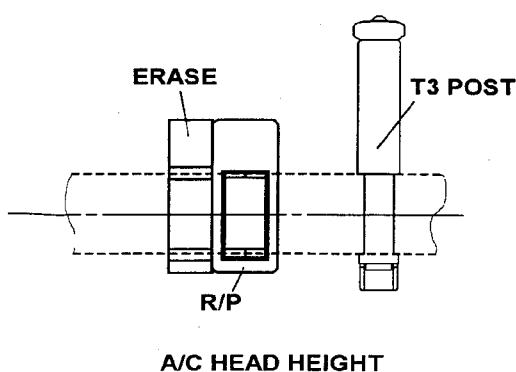
F: Drop

5-15. A/C Head Adjustment Method

Adjustment Item	SCREW	Adjustment Method	Torque
Tilt adjustment	A	Tighten direction . . . Decrease CUE Loosen direction . . . Increase CUE	
Height adjustment	B	Tighten direction . . In case of increase CTL, when A/C Head Press down. Loosen direction . . In case of increase CTL, when A/C Head lift up.	
Azimuth adjustment	F	Phase is adjusted by screw F	
X-value adjustment	C D	Adjust X-value by VFK0357 at Hole (E), then tighten the screw (C) and (D) to fix A/C Head horizontal position.	2.5Kg.cm
Fixed Tilt and Azimuth	G	Screw (G) is always tighten during adjustment except Tilt and Azimuth.	1.0Kg.cm
Fixed height	H	After height adjustment, tighten the screw (H) to fix height of A/C Head.	

SCREW	Tool for adjustment
A	VFK1178 (0.89mm Hex Driver)
B	VFK1150 (5.5mm Tool for adjustment)
F	VFK1148 (1.5mm Hex Driver)
C,D,G	VFK1209 (Torque Driver) VFK1375 (1.5mm Post Axis Driver)
H	VFK1190 (1.5mm L type of Hex Wrench)

1. Each adjustment of A/C Head should be perform under the screw (G) tightened.
2. Confirm the screw (A) does not loosen, before execute the A/C Head Tilt adjustment. The screw (A) should be always touch to top of A/C Head.
3. Be careful the tape damage at T3 Post, when adjust tilt of A/C Head.
4. When the height of A/C Head is adjusted by Nut (B), first the screw (H) should be loosen. And after height adjustment finished, tighten the screw (H) lightly.
5. Each adjustment of A/C Head should be finished at the condition of turn the each adjustment screw tighten direction. And hit the portion (L) lightly for remove the distortion.
6. Adjust alternately each A/C Head adjustment with Envelope Waveform adjustment.



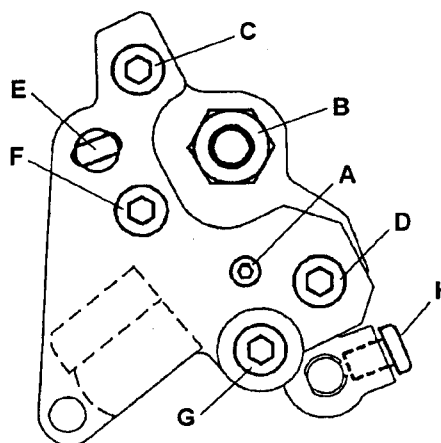
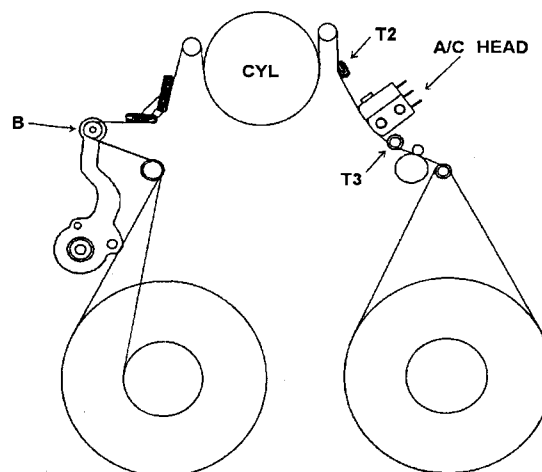
5-16. A/C Head Tilt Adjustment

SPEC	Lower limit at T3 Post No tape curl
ADJUSTMENT	SCREW A and G (A/C Head)
MODE	PLAY
TAPE	Blank Tape
M.EQ	VFK1148, VFK1178(Hex Driver)

1. Play back the tape and adjust **screw(A)** for adjustment of tilt of A/C Head so that the tape path has lower limit without curl at T3 post.
2. To adjustment, loosen the screw (G) and make curl on tape at lower flange of T3 post by screw (A). And tighten screw (A) accordingly for find the point of curl disappeared. After finish adjustment for screw (A), tighten the screw (G) is tightened with 1.0Kg/cm of torque.

(NOTE)

1. In case of turn clockwise screw (A).
→ Tape goes up at T3 post.
In case of turn counter-clockwise screw (A).
→ Tape goes down at T3 post.
2. When screw adjustment finished, with each adjustment screw on A/C Head should be finished tighten direction. And confirm that the screw does not loosen.
3. Adjust and confirmation should be performed alternately with each A/C head adjustment(Azimuth and Height).



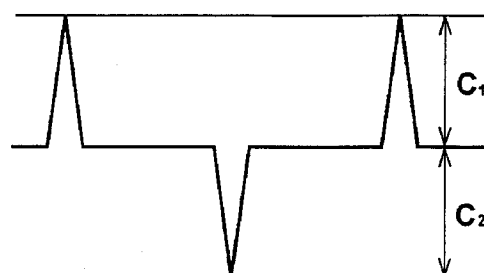
5-17. A/C Head Height adjustment

BOARD	RF
SPEC	CTL Output ($C_1, C_2 \geq 160\text{mV}$)
TEST POINT	TP5903(TP903 on RF Board)
ADJUSTMENT	SCREW B and H (A/C Head)
MODE	PLAY
TAPE	NTSC: VFM3580KM (14 to 22 min) PAL: VFM3680KM (14 to 22 min)
M.EQ	Oscilloscope
TOOL	VFK1150(Nut Driver) VFK1190(Hex Wrench)

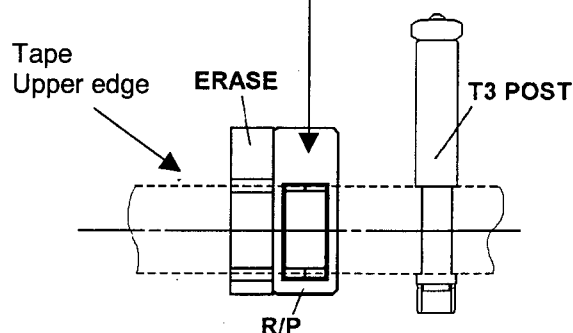
1. Observe the CTL output (**TP903**) on the Servo board.
2. Press and Lift up to A/C Head lightly as indicated as figure position, then confirm that the **CTL** output level is **decreased**.
3. If increases CTL output, when press the A/C Head. Loosen the **screw H** and adjust the **screw B** **counterclockwise** until CTL output is maximized.
4. If increases CTL output, when lift up the A/C Head. Loosen the **screw H** and adjust the **screw B** **clockwise** until CTL output is maximized.
5. After tightening the **screw H(2.0kg)**, confirm the level again.

< NOTE >

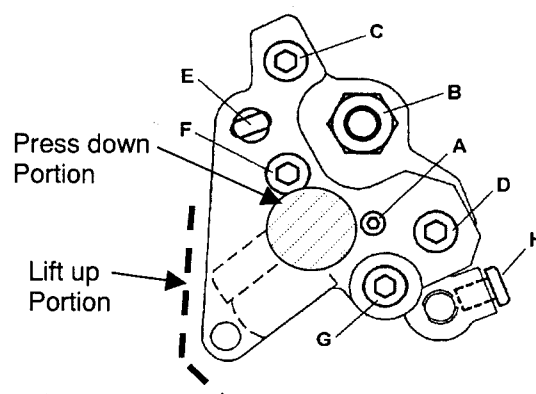
1. Adjust alternately with other A/C head adjustments(Azimuth, Height).



Upper edge of CUE R/P Head
(Upper edge of white portion)



A/C HEAD HEIGHT



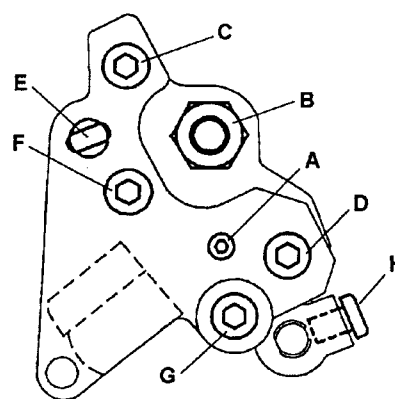
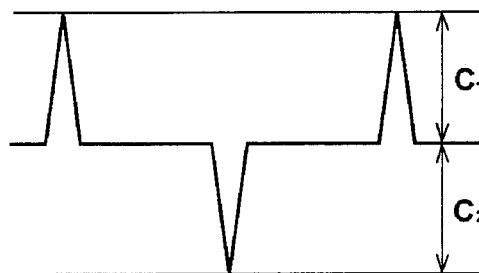
5-18. A/C Head Azimuth Adjustment

BOARD	SERVO
SPEC	CTL Output: C1, C2 = C1 max. C2 max
TEST POINT	TP5903 (TP903 on RF Board)
ADJUSTMENT	SCREW F (A/C Head)
MODE	PLAY
TAPE	NTSC: VFM3580KM (14 to 22 min) PAL: VFM3680KM (14 to 22 min)
M.EQ	Oscilloscope
TOOL	VFK1148 (Hex Driver)

1. Observe the CTL output (TP903) on the Servo Board.
2. To adjustment, loosen the screw (G) and adjust screw (F) so that the CTL output become maximum.
3. Tighten screw (G) with 1.0Kg torque.

< NOTE >

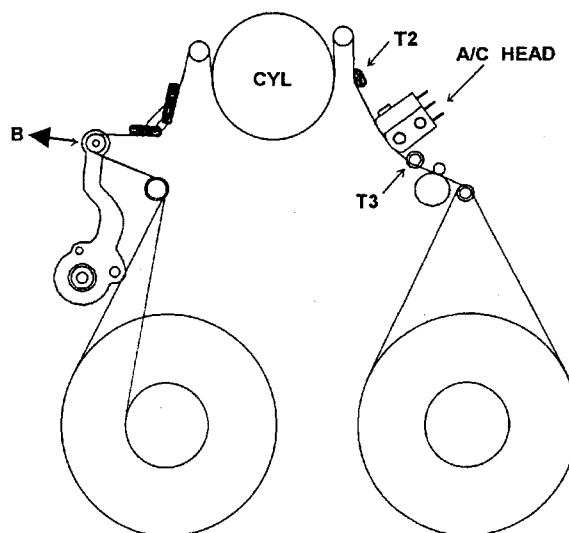
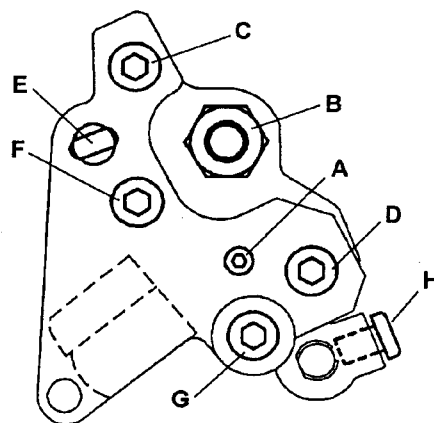
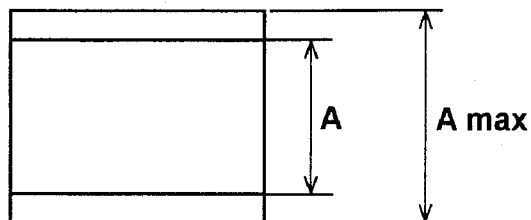
1. Adjust alternately with other A/C head adjustments (Azimuth, Height).



5-19. A/C Head Tilt Confirmation

SPEC	$A/A_{max} \geq 0.8$
TEST POINT	TP40701 (TP701 on AUDIO Board)
ADJUSTMENT	SCREW A and G (A/C Head)
MODE	PLAY
TAPE	NTSC: VFM3580KM (14 to 22 min) PAL: VFM3680KM (14 to 22 min)
M.EQ	Oscilloscope
TOOL	VFK1178, VFK1148(Hex Driver)

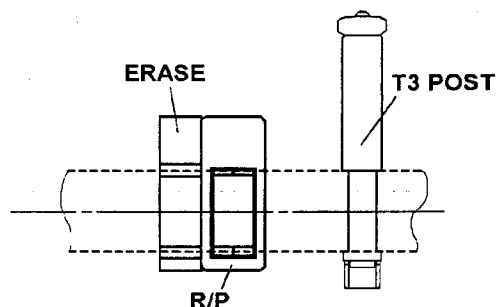
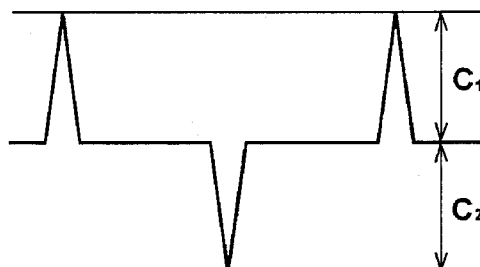
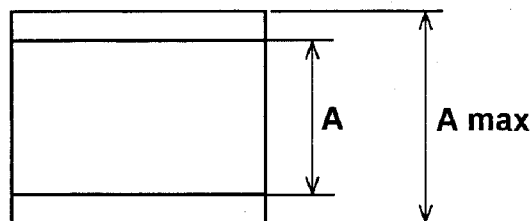
1. Playback the Alignment tape.
2. Confirm that the **screw G** and **H** are not loosened.
3. Push the tension arm follow the arrow (B) direction as shown in figure as range of T2 post does not move. And confirm that the CUE output level is within specification.
4. If out of specification, loosen the **screw G** and adjust the **screw A**, then tighten the **screw G** with 1.0kg torque.
5. The final touch of the adjustment must be turned clockwise. After this adjustment, confirm that the screw A is not loosened.
6. If adjust the screw A, Confirm that the tape pass condition follow Post Limit Confirmation procedure (item 1-14).



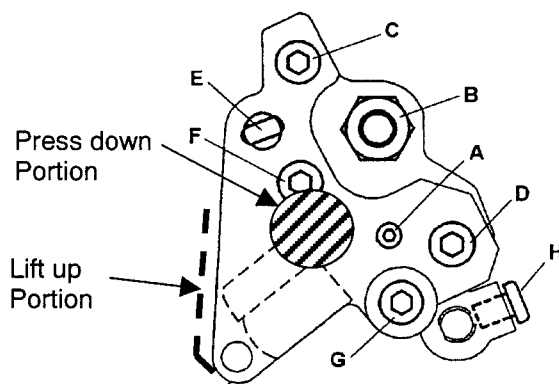
5-20. A/C Head Height Confirmation

SPEC	$A \geq 0.95 \times A_{max}$, $C_1, C_2 \geq 160mV$
TEST POINT	TP40701 (TP701 on AUDIO Board) TP5903 (TP903 on RF Board)
ADJUSTMENT	SCREW B and H (A/C Head)
MODE	PLAY
TAPE	NTSC: VFM3580KM (14 to 22 min) PAL: VFM3680KM (14 to 22 min)
M.EQ	Oscilloscope
TOOL	VFK1150 (Nut Driver) VFK1190 (Hex Wrench)

1. Playback the Alignment tape.
2. Press and Lift up to A/C Head lightly as indicated as figure position, then confirm that the CUE output level at TP701 does not **increased**.
3. If increases CUE output, A/C Head Height adjustment performed. And also confirm that the CTL output level.
4. If adjust the height of A/C Head, Azimuth also changed. Therefore adjust and confirm alternately Height and Azimuth of A/C Head.
5. After screw (H) is tightened, height and tilt of A/C Head are changed. Therefore confirmation of specification must be done after tightening the screw (H).



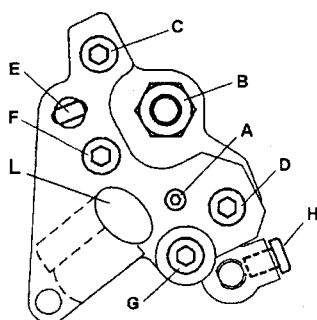
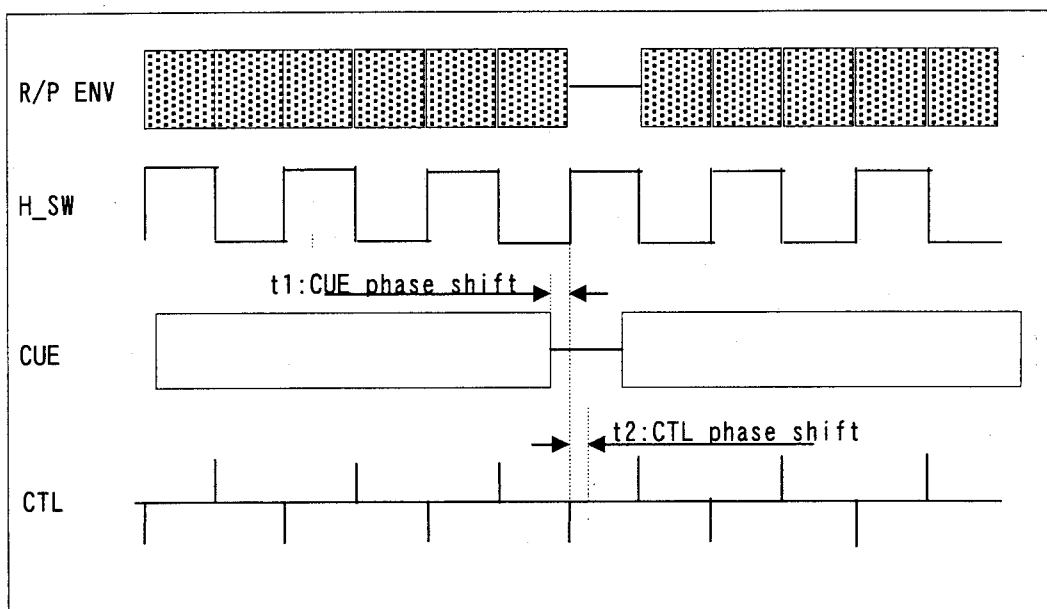
A/C HEAD HEIGHT



5-21. A/C Head Azimuth and X-value Adjustment.

SPEC.	As shown in below figure. $250\mu s \leq t_1, t_2 \leq +250\mu s$	TEST POINT	TP5251:RP ENV (TP251 on RF Board.) TP5759:RP HSW (TP759 on RF Board.) TP40701:CUE (TP701 on AUDIO Board.) TP5903:CTL (TP903 on RF Board.)
ADJUSTMENT	A/C Head each screws		
MODE	PLAY (SERVO ADJUST: A09:RP LINEAR)	M.EQ	Oscilloscope
TAPE	NTSC: VFM3582KM (X-value) PAL: VFM3682KM (X-value)	TOOL	VFK0357 (Eccentric Screwdriver)

1. Open the Servo Adjust menu on Service menu and set the item "B05:PB HEAD" to "RP"(counter displayed 00001).
2. Open the Service menu and select the item "A09:RP LINEAR" on Servo Adjust menu for RP Head ATF Playback.
3. Playback the X-value Alignment tape.
4. Confirm that the phase of CUE and CTL are within specification against RP HSW pulse trigger. If not perform the X-value adjustment follow the below procedure.
5. Adjust A/C Head Azimuth (refer to Azimuth adjustment procedure) so that the CTL and Lack part of CUE(t2) is match in the phase.
6. Confirm the lack track of envelope, and select the HSW correspond with it (The lack track is correspond HSW high with L ch).
7. Adjust X-value so that the reference of HSW and CTL trigger (CTL falling edge is the reference: refer to below figure) are match in the phase(t1). To adjust X-value, loosen the screw C and D, adjust the hole E by VFK0357. After adjustment tighten the screw C and D with 2.5Kg torque. At this time adjust the phase simultaneously with Azimuth so that the CTL and CUE phase is kept.
8. Hit the top plate (portion L as shown in below figure) of A/C Head lightly by a pointed end of Eccentric driver , then confirm the phase is not shifted finally.



5-22. REV Tape Pass Confirmation and Adjustment (T4 post height adjustment)

SPEC.	C1, C2 \geq Cp1, Cp2 $\times 0.75$ Lower limit at T3 post on REV mode	TAPE	NTSC: VFM3580KM PAL: VFM3680KM
TEST POINT	TP5903(TP903 on RF Board.)	M.EQ	Oscilloscope
ADJUSTMENT	T4 post height	TOOL	VFK1151(Nut Driver)
MODE	REV $\times 1$		

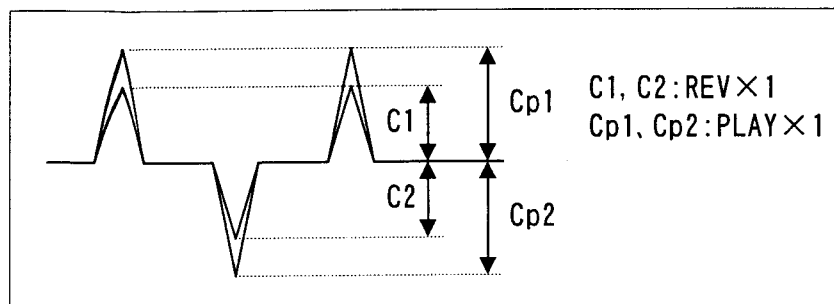
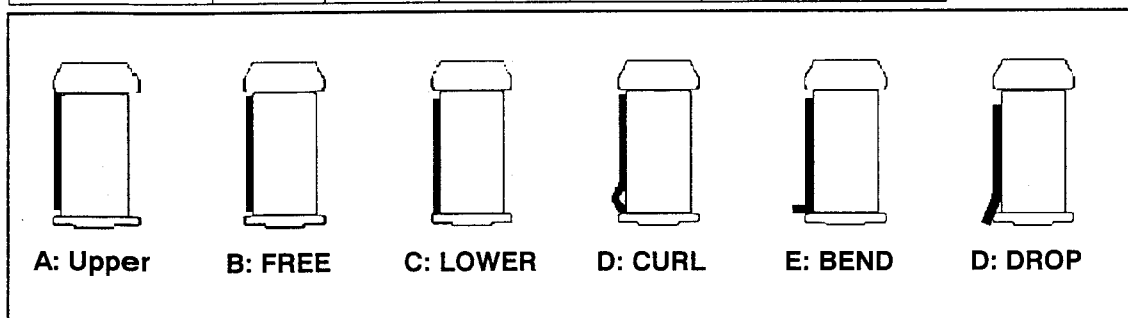
1. Place unit into REV mode, and confirm the post limit and CTL signal are in the specification. IF not, adjust T4 post follow the below procedure.
2. Turn the Nut of T4 post clockwise or counterclockwise follow the tape limit condition at T3 post. The maximum rotation angle is 90 degree.
3. Place unit into REV X1 mode and confirm the CTL output level is become more than 75% on play mode.
Confirm the tape pass limit become lower limit at T3 post and the tape does not have curl at T3 and T4 post.
4. However out of specification, adjust T4 post height follow the Post Height Pre-adjustment procedure.

T4 Nut adjustment direction

Direction of adjustment nut of T4 post	CTL level on REV mode	Lower limit at T3 post On REV mode
Tighten direction	Increase	Tape touch to strong
Loosen direction	Decrease	Tape touch to weak

Post Limit

Post Name	Tape limit					
	A	B	C	D	E	F
T3 Post	X	X	○	X	X	X
T4 Post	○	○	○	X	X	X

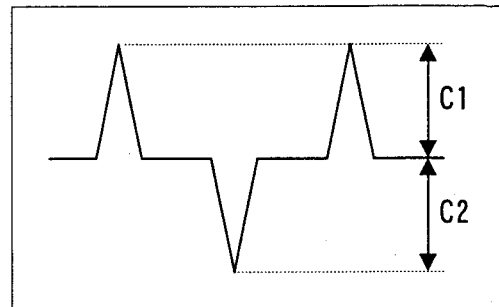


5-23. CTL Self Recording Level Confirmation

SPEC.	Refer to below table
TEST POINT	TP5903 (TP903 on RF Board)
MODE	REC and PLAY
TAPE	Blank tape
M.EQ	Oscilloscope

NOTE: This confirmation should be done after each screws of A/C Head are fixed.

1. Record the blank tape.
2. Playback the recorded portion and confirm the CTL level is within specification as shown as below table on PLAY and REV X1 mode.



CTL Output Level C1,C2	
PLAY	REV X1
C1,C2 \geq 160mV	C1,C2 \geq 120mV

1. PLAY NG → Re-confirm the A/C Head height adjustment.
2. REV NG → Re-confirm the T4 post adjustment.

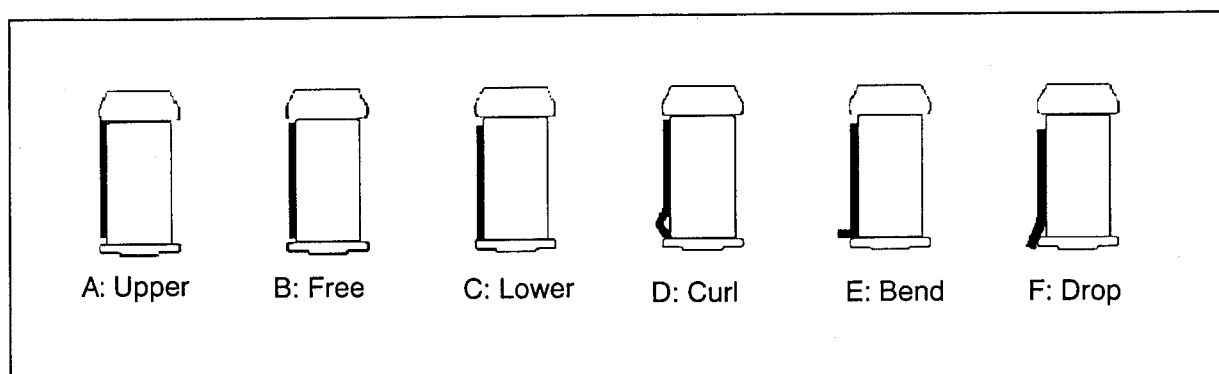
CTL Output Level C1,C2

5-24. PLAY Tape Pass Limit Confirmation

SPEC.	Each Post limit shown in table
MODE	PLAY
TAPE	M cassette (MP tape) tape. Tape beginning and end portion

Post Name	Tape Limit (Refer the figure)						Adjustment	
	A	B	C	D	E	F		
S5 post	X	○	○	X	X	X	S4, S5 Post	Post Height Pre-Adj.
S4 post	X	X	○	X	X	X		
S1 post	○	X	X	X	X	X	S1 Post	Envelope waveform Adj.
T1 post	○	X	X	X	X	X	T1 Post	Envelope waveform Adj.
T3 post	X	X	○	X	X	X	A/C Head tilt	A/C Head tilt Adj.
T4 post	X	○	○	X	X	X	T4 Post	Post Height Pre-Adj

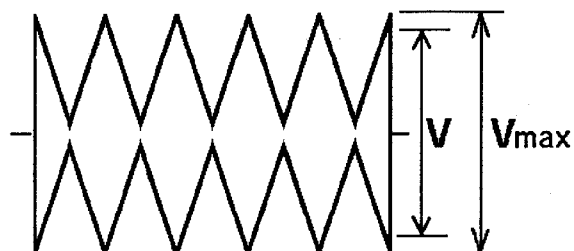
1. Place unit into PLAY mode and confirm the each post limits is within specification.
2. If out of specification, adjust the post height follow the each adjustment procedure (Refer to above table).



5-25. Confirmation of Envelope on REV,REW and FF mode.

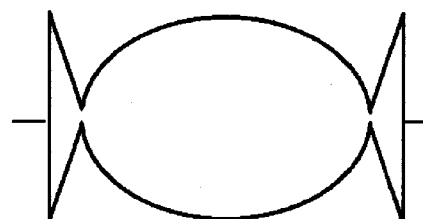
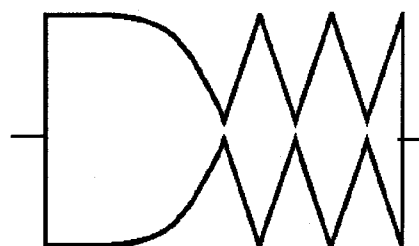
SPEC.	$V/V_{max} \geq 0.9$
TEST POINT	TP5251:R/P ENV (TP251 on RF Board.) (RP ENV is selected by Service menu) TP5759:TRIG(TP759 on RF Board)
MODE	REV, REW, FF
TAPE	NTSC: VFM3580KM PAL: VFM3680KM
M.EQ	Oscilloscope

1. Open the Servo Adjust menu on Service menu and set the item "B05:PB HEAD" to "RP"(counter displayed 00001).
2. Confirm that the Envelope waveform becomes in the specification on REV,REW and FF mode as refer to figure and below.
 - Waveform must be Diamond Style.
 - All the peak level must be more than 90% of maximum level.
 $V/V_{max} \geq 0.9$
2. If out of spec, adjust S4 post height.



OK

NG



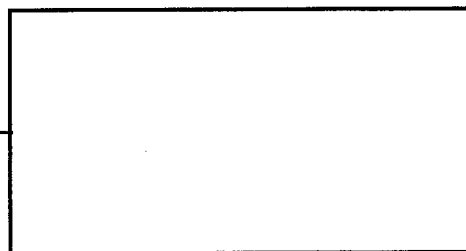
5-26. Confirmation of Play Start Envelope

TEST POINT	TP5251:R/P ENV (TP251 on RF Board) (RP ENV is selected by Service menu) TP5759:TRIG(TP759 on RF Board)
MODE	REW/REV → PLAY Loading completion → PLAY FF → PLAY
TAPE	L cassette(123min. Recorded tape) Tape beginning portion
M.EQ	Oscilloscope

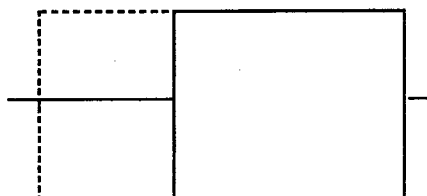
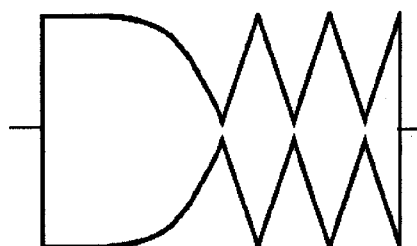
Note: This adjustment must be done after Envelope Waveform Adjustment.

1. Open the Servo Adjust menu on Service menu and set the item "B05:PB HEAD" to "RP"(counter displayed 00001).
2. Confirm that the envelope appears immediately, when the mode is changed from REW to PLAY, REV to PLAY, FF to PLAY, and Lording to PLAY mode.
3. If out of spec, adjust S4 post height.

OK



NG

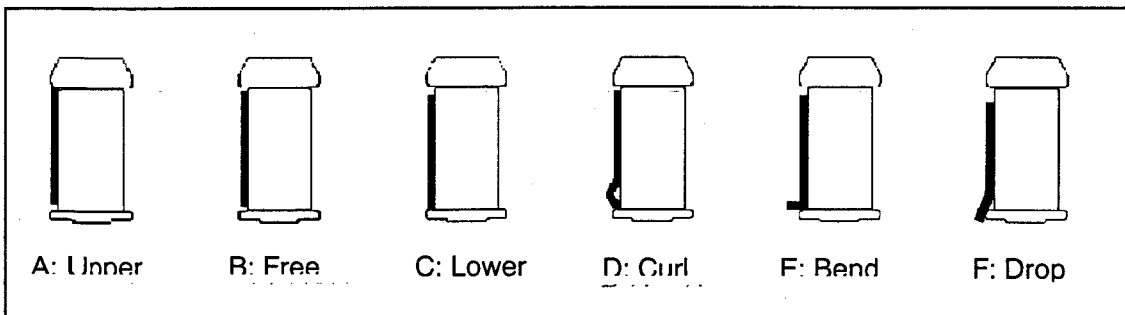


5-27. Tape Pass Limit Confirmation

SPEC	Each Post limit shown in table.
MODE	REV
TAPE	M cassette (MP tape) tape. Tape beginning and end portion

Post Name	Tape Limit(Refer to figure)					
	A	B	C	D	E	F
S5 Post	○	○	○	X	X	X
S4(Tension) Post	X	○	○	X	X	X
S1 Post	○	X	X	X	X	X
T1 Post	○	○	○	X	X	X
T3 Post	X	X	○	X	X	X
T4 Post	X	X	○	X	X	X

1. Place unit into REV mode and confirm the each post limits is within specification.
2. If out of specification, adjust the post height follow the each adjustment procedure (Refer to above table).

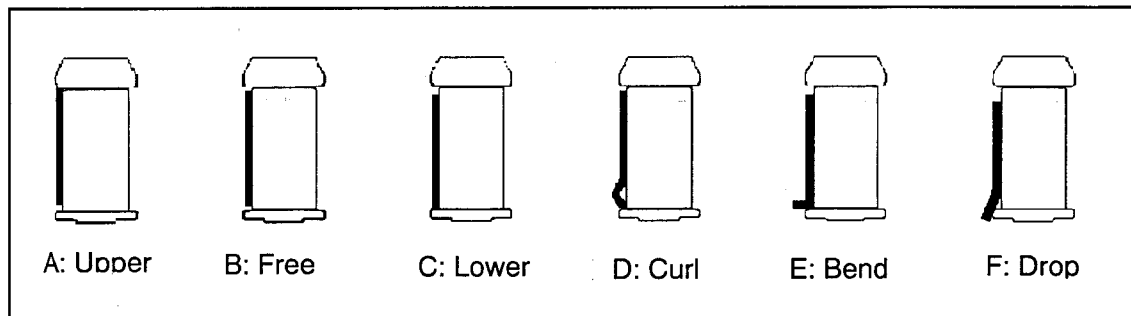


5-28. FF, REW Tape Pass Limit Confirmation

SPEC.	Each Post limit shown in table.
MODE	FF,REW
TAPE	M cassette (MP tape) tape. Tape beginning and end portion

Post Name	Tape Limit(Refer to figure)					
	A	B	C	D	E	F
S5 Post	○	○	○	X	X	X
S4(Tension) Post	X	○	○	X	X	X
S1 Post	○	X	X	X	X	X
T1 Post	○	○	○	X	X	X
T3 Post	○	○	○	X	X	X
T4 Post	○	○	○	X	X	X

1. Place unit into FF and REV mode and confirm the each post limits is within specification.
2. If out of specification, adjust the post height follow the each adjustment procedure (Refer to above table).

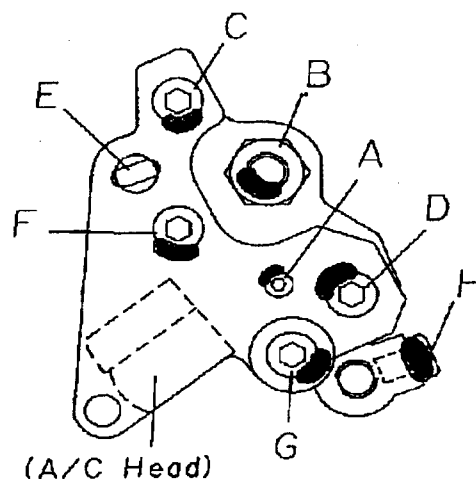


5-29. Screw Lock Tight of A/C Head and T3, T4 Post

[Screw Lock Tight of A/C Head]

	SCREW A	OTHER SCREW
Lock Tight Grew Quantity	1/3 of the screw	1/3 of the screw

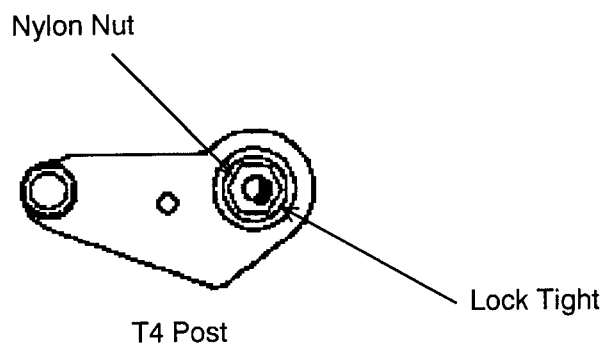
1. Fix the screw by the Lock Tight Grew after adjustment..
2. Before adjustment melt the Grew.



[Screw Lock Tight of T3 and T4 Post]

	T3 Post	T4 Post
Lock tight grew quantity	1/4 of the screw	1/4 of the screw

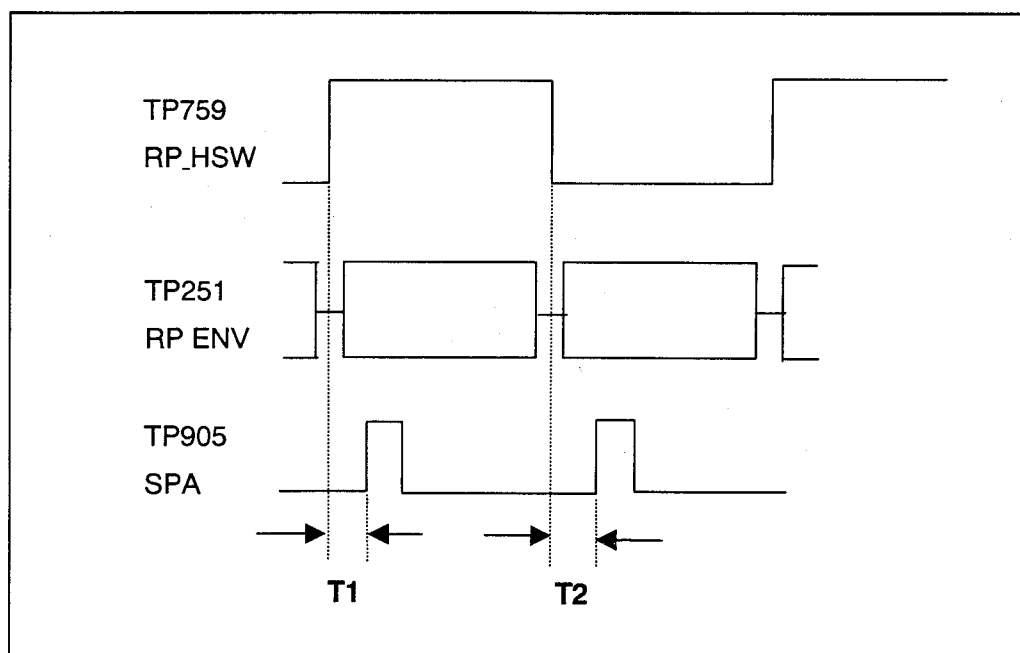
1. After adjustment, attach the lock tight grew at the Nylon nut..
2. Before adjustment, melt the Grew.



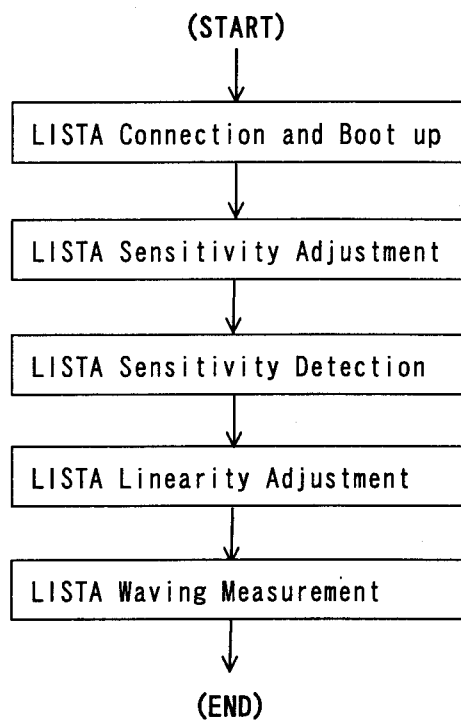
5-30. PG SHIFTER Adjustment

SPEC.	T1, T2 = 126.4 μ sec \pm 2 μ sec.
MODE	PLAY
TEST POINT	TP5905: SPA (TP905 on RF Board) TP5759: R/P HSW (TP759 on RF Board) TP5251: R/P ENV (TP251 on RF Board)
ADJUSTMENT	A06:PG SFTR RISE, A07:PG SFTR FALL (SERVO ADJUST)
M.EQ	Oscilloscope
TAPE	NTSC: VFM3580KM PAL: VFM3680KM

1. Open the SERVO ADJUST menu on the Service menu and select the item "A06:PG SFTR RISE".
2. Insert the Alignment tape and press [END]+[PLAY] button for unit place in playback mode.
3. After light up the SERVO indicator, keep press [BIGIN] until right side numerical value of Service menu "A06:PG SFTR RISE" once change to 0000 and next changes to new numerical value.
4. Press [UP] and select "A07 PG SFTR FALL".
5. Keep press [BIGIN] until right side numerical value of Service menu "A07:PG SFTR FALL" once change to 0000 and next changes to new numerical value.
6. Connect the scope to, TP905 and TP251 and TP759. Trigger the scope by TP759. Then it is displayed as shown in figure.
7. Confirm that the period of T1 and T2 in specification (126.4 μ sec \pm 2 μ sec).



5-31. LISTA Adjustment Procedure.



5-32. LISTA Connection and Boot Up

TEST POINT	TP5902: ATF ERR (TP902 on RF Board) TP5757: PB HSW (TP757 on RF Board) TP5759: R/P HSW (TP759 on RF Board) TG5751: GND (TP751 on RF Board)
M.EQ	P/C (AD Board should be installed), Oscilloscope
TAPE	NTSC: VFM3581KM (LISTA alignment tape) PAL: VFM3681KM (LISTA alignment tape)
TOOL	VFK1481 (LISTA Software), VFK1186 (LISTA Cable)

1. Connect the LISTA Cable to A/D board on PC.
2. Connect the Clips of LISTA Cable to test point on RF Board as follow as below.
 - ①.ATF : TP902 (ATF error)
 - ②.HSW : TP759 (HSW:RP) or TP757 (HSW:PB)
 - ③.GND : TG751 (GND)
3. Boot up the LISTA software on DOS mode.

★ Install and Boot up.

All files on the floppy disk (VFK1481) copy to created directly on PC(i.e. C:\LISTA).

Type "LISTA" and press ENTER Key, then boot up the LISTA software VFK1481

4. Select the item " DVCPRO " for format select on the menu.
5. Select the item " AJ-D750 " for selected model on the menu. (AJ-D250 is equivalent to AJ-D750)
6. After selected model, appeared alignment tape data on the screen for select the Serial number on the alignment tape. But if LISTA software have not resisted data of alignment tape, press the ESC key, then main menu is display on the screen. And select item "<4> Alignment Tape" for entry the data on the attachment sheet, which is enclosed of alignment tape.

7. After boot up LISTA software, select the item " DVCPRO " for format select on the menu.
8. Select the item " AJ-D750 " for selected model on the menu (AJ-D250 is equivalent to AJ-D750).

Linearity monitor system of track
using ATF error signal for DVCPRO

— L I S T A P R O —
[Service Use]

<<< FORMAT SELECT >>>

<1> DVCPRO

<2> DVCPRO 4X

<3> DVCPRO 50

<4> Quit

Move:Cursor key Select:[ENTER] key

Linearity monitor system of track
using ATF error signal for DVCPRO

— L I S T A P R O —
[Service Use]
(for DVCPRO VTR)

<<< VTR SELECT >>>

<1> A J - D 7 5 0

<2> A J - D 7 0 0

<3> A J - D 2 0 0

Move:Cursor key Select:[ENTER] key

9. Next select the Serial number of the alignment tape on the screen. In case of LISTA software have not resisted data of alignment tape, press the ESC key, then main menu is display on the screen. And select item " <4> Alignment Tape " for entry the data on the attachment sheet, which is enclosed of alignment tape.
10. In case of LISTA software have resisted data of alignment tape, select the serial number of Alignment tape, then appear message "ok?(y/n)" on the screen. And press " Y " or " ENTER " key, then LISTA main menu is display on screen.

«In case of Alignment tape resisted»

<< Alignment Tape Select >> Last Select [4]

No.	Serial No.	PAL/NTSC	Check Sum	Type	Entry Date
[1]	0000	NTSC	0.0	18 um	10-05-1995
[2]	0000	PAL	0.0	18 um	02-20-1998
[3]	LRC-13	NTSC	0.0	10 um	06-01-1998
[4]	9804420	PAL	0.2	18 um	09-08-1998
[5]	Lrc-20	PAL	0.0	10 um	09-09-1998
[6]	9806488	NTSC	0.1	18 um	12-14-1998

<== ok? (y/n)

Move:Cursor key Select:[ENTER] key Cancel:[ESC] key

«In case of Alignment tape does not resisted»

<< Alignment Tape Select >> Last Select [4]

No.	Serial No.	PAL/NTSC	Check Sum	Type	Entry Date
[1]	0000	NTSC	0.0	18 um	10-05-1995
[2]	0000	PAL	0.0	18 um	02-20-1998

Move:Cursor key Select:[ENTER] key Cancel:[ESC] key

< How to Entry the Attachment Data of Alignment Tape >

1. Select the item "<4> Alignment Tape " on the main menu of the LISTA software.
2. Select the item "<2> ENTRY " on the alignment tape menu.
3. After display the screen of "<< Alignment tape Data Entry >>", first input the Serial number follow the printed number on the tape label. And input the number "0" or "1" for select the PAL/NTSC. And after that for entry the tape type, in case of DVCPRO input to "0", in case of DV input to "1".
4. After select the Tape type, the frame for input the DATA and CHECK SUM appeared on the screen. Input the numerical value in numerical order on the data sheet, which are enclosed with alignment tape. If input the wrong number, appear the error message on the screen, then confirm that the data on the sheet.
5. After entry the data, select "<1> SELECT " on the Alignment Tape menu and select the serial number of the alignment tape.

<<Alignment Tape Data Entry>>

Serial No. 0596003 (NTSC)

18um

[1]	- 0.1
[2]	0.1
[3]	0.0
[4]	0.2
[5]	0.6
[6]	0.5
[7]	0.7
[8]	0.9
[9]	1.0
[10]	0.8

[11]	0.7
[12]	1.0
[13]	0.7
[14]	0.5
[15]	0.2
[16]	- 0.5
[17]	- 0.3
[18]	- 0.3
[19]	- 0.1
[20]	- 0.6

[21]	- 0.4
[22]	- 0.2
[23]	- 0.7
[24]	- 0.6
[25]	- 0.7
[26]	- 0.3
[27]	- 0.4
[28]	- 0.4
[29]	- 0.6
[30]	- 0.3

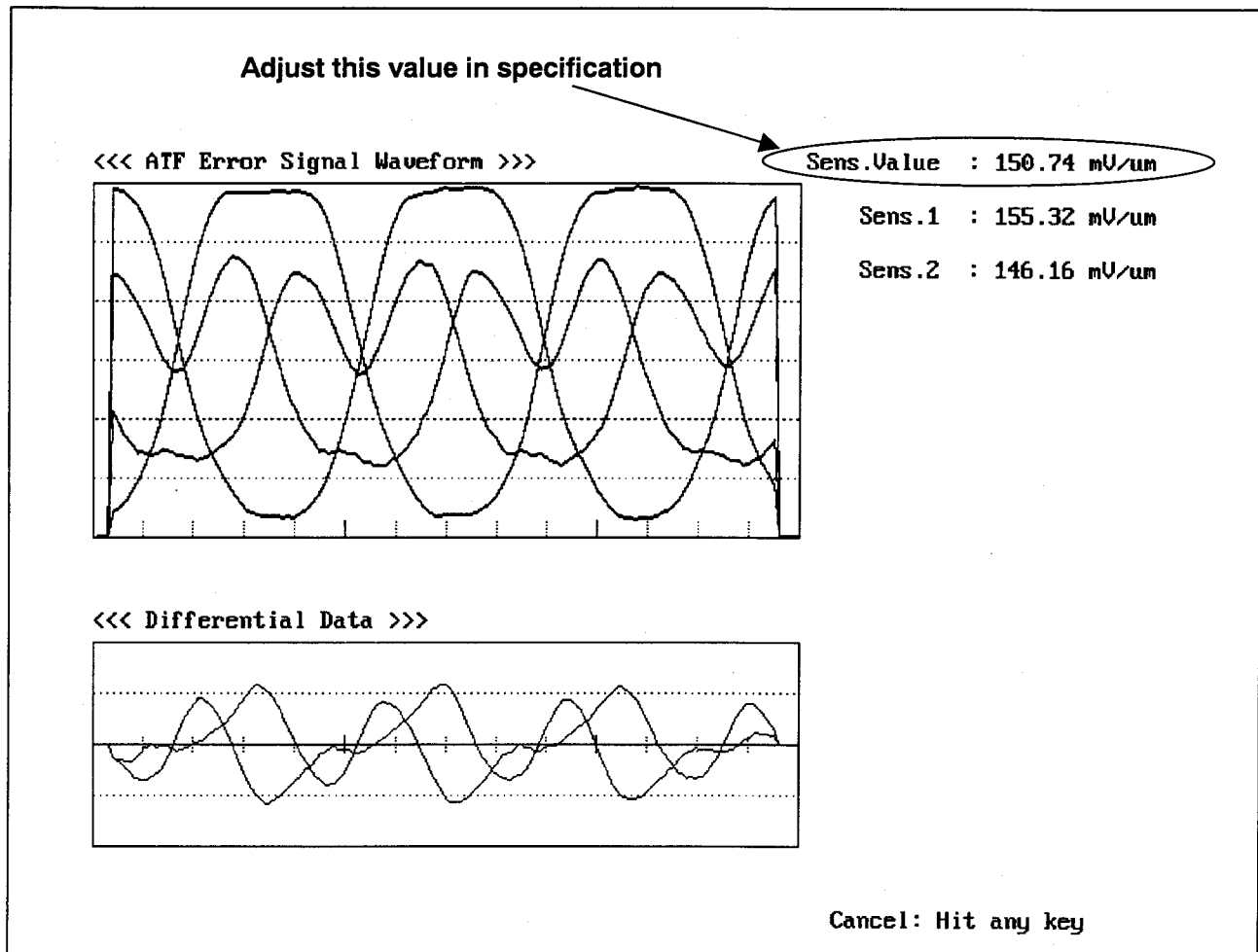
[31]	- 0.4
[32]	- 0.6
[33]	- 0.3
[34]	- 0.2
[35]	- 0.1
[36]	- 0.3
[37]	- 0.1

[CS]	- 0.6
------	-------

5-33. LISTA Sensitivity Adjustment (R/P Head)

SPEC.	Sensitivity: 150 ± 15 (mV/um)
MODE	PLAY
TEST POINT	TP5902: ATF ERR (TP902 on RF Board) TP5759: R/P HSW (TP759 on RF Board) TG5751: GND (TP751 on RF Board)
ADJUSTMENT	A08:RP GAIN (SERVO ADJUST)
TAPE	NTSC: VFM3581KM (LISTA) PAL: VFM3681KM (LISTA)

1. Connect the Test Point to clip of LISTA cable for ATF Error signal measurement.
2. Open the SERVO ADJUST menu on Service menu and select the EVR "A08:RP GAIN".
3. Playback the LISTA alignment tape.
4. Select the "<6> ATF Error Signal Monitor" on the LISTA main menu and after appear the message "1.2% Speed...", press ENTER key, then sensitivity value as real time and waveform appear on the screen as shown as figure below.
5. Adjust EVR "A08:RP GAIN" so that the sensitivity value is within specification.
6. After finish this adjustment, press ESC key to exit to the main menu.



5-34. LISTA Sensitivity Detection (RP Head)


SPEC	Sensitivity: 150 ± 15 (mV/um)
MODE	PLAY
TEST POINT	TP5902: ATF ERR (TP902 on RF Board) TP5759: R/P HSW (TP759 on RF Board) TG5751: GND (TP751 on RF Board)
ADJUSTMENT	-----
TAPE	NTSC: VFM3581KM (LISTA) PAL: VFM3681KM (LISTA)

1. Open the SERVO ADJUST menu on Service menu and select the EVR "A08:RP GAIN".
2. Playback the LISTA alignment tape.
3. Select the "<1>Sensitivity Measurement" on the LISTA main menu and after appear the message "1.2% that Speed...", press ENTER key, then LISTA software start measurement of sensitivity value.
4. Confirm the sensitivity value is within specification, when the message << Sensitivity Measurement Finish>> and [Sensitivity = numerical value] are displayed on the screen.
5. If out of specification, repeat the steps 3 and 4.
6. If still out of specification, perform the "LISTA Sensitivity Adjustment again.

<< Sensitivity Measurement Finish >>

Sensitivity 155.89 (mv/um)

Confirm this value



Sens.1 150.42 (mv/um)

Sens.2 161.35 (mv/um)

Please change VTR Tape Speed Mode

(+1.2% Speed => Normal Speed)

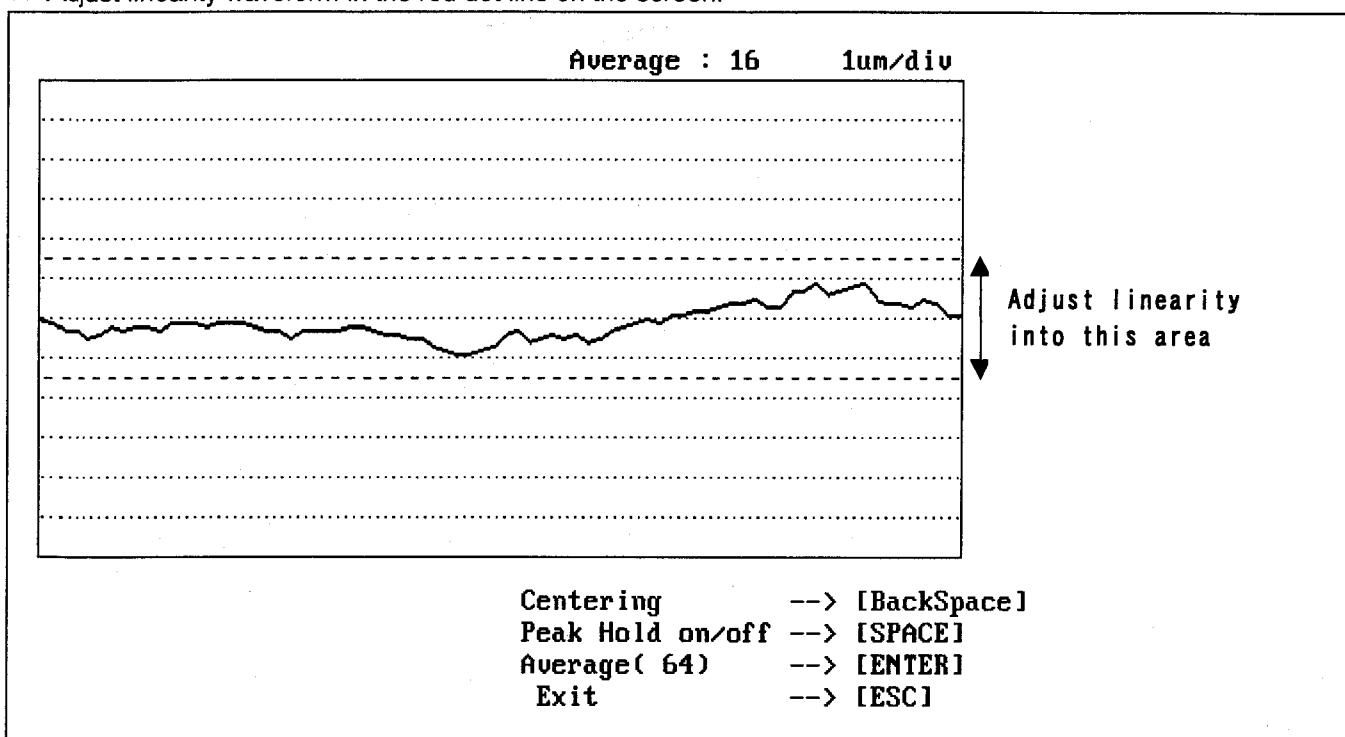
<<< Hit any key >>>

5-35. LISTA Linearity Adjustment and Waving Measurement.

SPEC	Linearity: Less than 3um, Waving: Less than 1.5um
MODE	PLAY (EVR is select to "A09: RP LINEAR")
TEST POINT	TP5902: ATF ERR (TP902 on RF Board) TP5759: R/P HSW (TP759 on RF Board) TG5751: GND (TP751 on RF Board)
ADJUSTMENT	S1 and T1 Post Height
TAPE	NTSC: VFM3581KM (LISTA) PAL: VFM3681KM (LISTA)

1. Open the SERVO ADJUST menu on Service menu and select the EVR "A09: RP LINEAR"
2. Playback the LISTA alignment tape.
3. Select the item "(2) Linearity Measurement" on the LISTA main menu and display the linearity waveform.
4. When the waveform as shown as below figure is displayed on the screen, press the "BS (back space)" key for display the waveform to center of scale on the screen. And adjust height of S1 and T1 post by Post Driver so that the linearity waveform is become flat as possible, and it should be in the specification.

★ Adjust linearity waveform in the red dot line on the screen.



☆ POINT:

The part of left side of waveform(entrance side) is adjusted by height of S1 post and part of right side of waveform(exit side) is adjusted by height of T1 post.

Lower part of above waveform of figure is displayed lead on Cylinder.

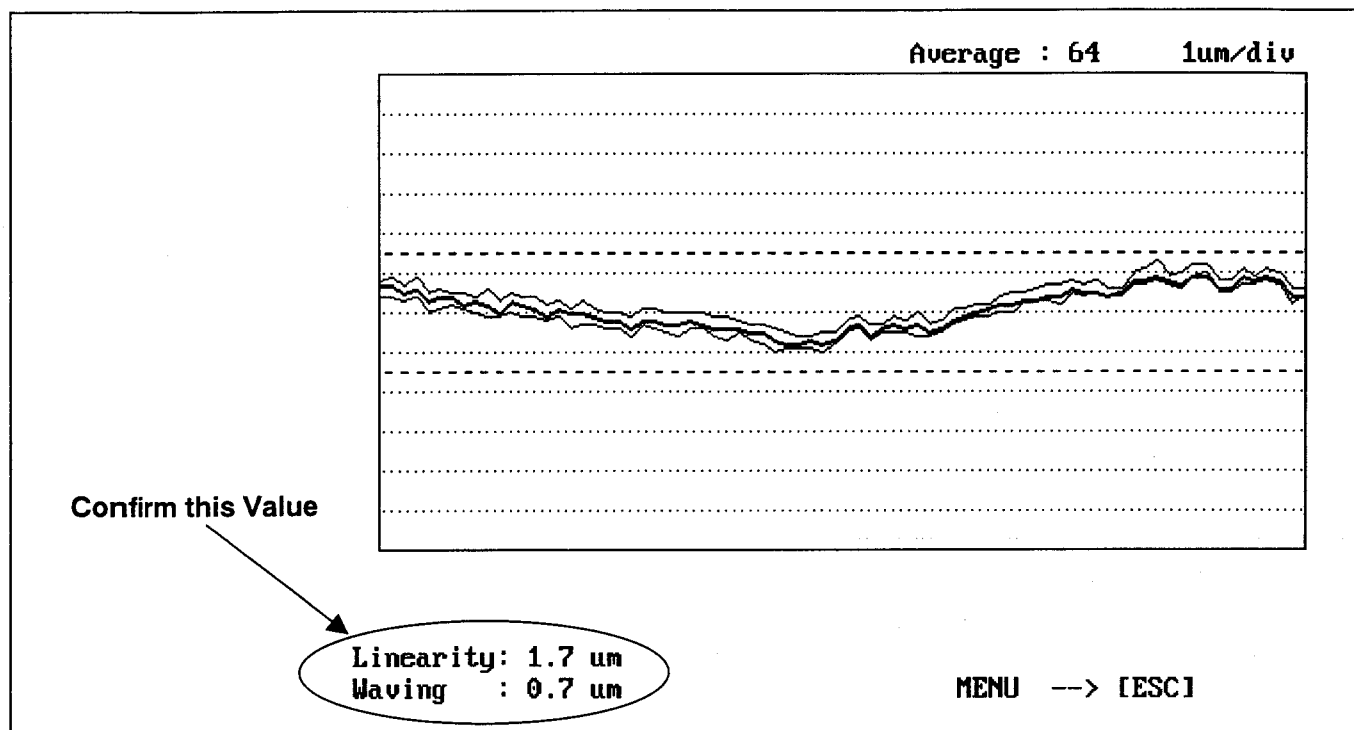
When the post driver is remove from upper part of post, linearity waveform is changed.

After finish this adjustment, eject the tape and insert the tape again for confirm the shape of linearity waveform does not changed.

5. After finish the linearity adjustment, measure the numerical value of linearity and waving.

* [Waving Measurement]

1. Press "SPACE" key for make the Peak Hold during 30 seconds, when linearity is displayed.
2. After finish the Peak Hold, press "SHIFT" and "}" ,key simultaneously on the Key Board, then display the numerical values of 「Linearity」 and 「Waving」 on left lower portion of screen. And confirm the numerical values are in the specification. Also confirm the range of waving waveform is same quantity from entrance side to exit side. If the 「Linearity」 and 「Waving」 are out of specification and it caused by not enough limit of entrance or exit side of envelope, then adjust height of S1 and T1 post.
3. After this measurement is finished, press ESC key for return to main menu.



* NOTE: Saving of LISTA Data

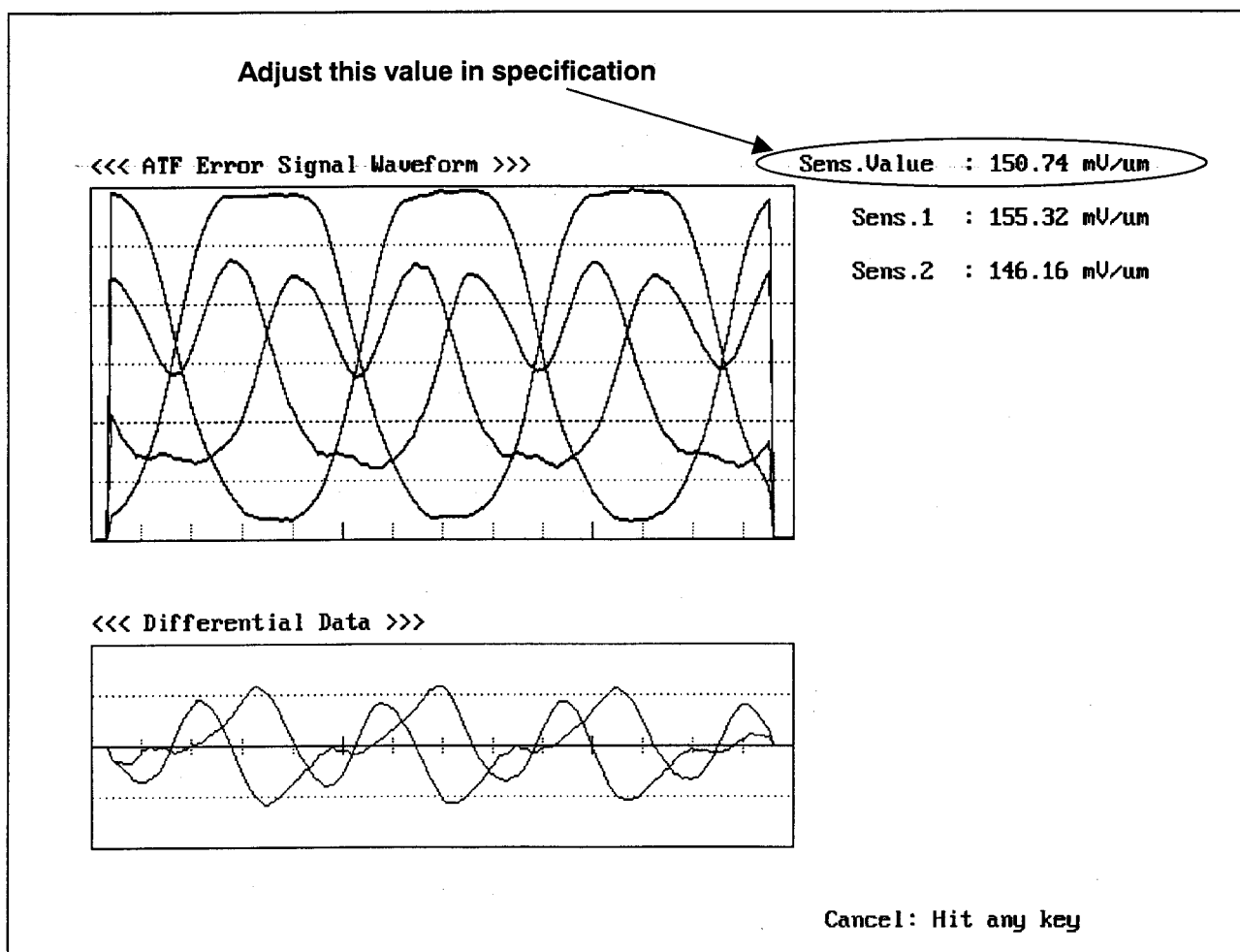
The LISTA software can be saved linearity waveform and measurement value of linearity and waving as one file data to PC.

1. Basically this operation should be performed after linearity and waving measurement finished.
2. Select the item 「(3) Data Save/Load」 on the LISTA main menu. And after open the menu select the item 「<1> Save」.
3. The linearity waveform as Peak Hold displayed on the screen. And after appeared message "File Name?" on the screen, entry the File Name and Comment. File Name must be in 8 characters, and comment is must be in 20 characters. As comment, entry the Serial Number, VTR Model Number and Head Rotation Hours etc, for use management of linearity data of each VTR.
4. After completion of saving, select the item 「<2> Load」 on the 「(3) Data Save/Load」 menu, then appear the saved File Name on the screen. And select it previous saved file for confirm the waveform and numerical value displayed correctly. By press "SHIFT" and "}" ,key simultaneously on the Key Board., then display the numerical values of 「Linearity」 and 「Waving」 on left lower portion of screen.

5-36. LISTA Sensitivity Adjustment (PB HEAD)

SPEC.	Sensitivity: 150 ± 15 (mV/ μ m)
MODE	PLAY
TEST POINT	TP5902: ATF ERR (TP902 on RF Board) TP5757: PB HSW (TP757 on RF Board) TG5751: GND (TP751 on RF Board)
ADJUSTMENT	A10:PB GAIN
TAPE	NTSC: VFM3581KM (LISTA) PAL: VFM3681KM (LISTA)

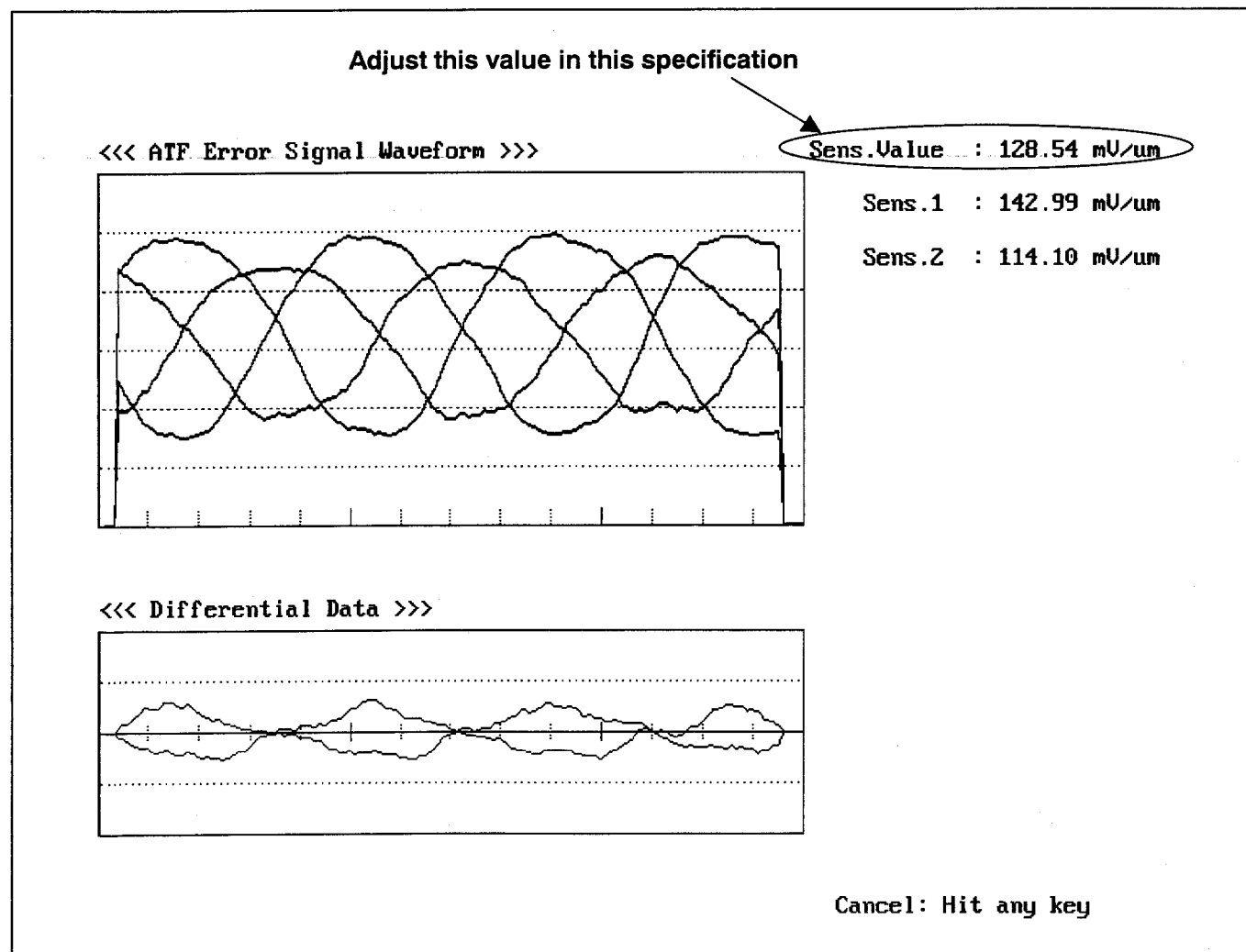
1. Connect the Test Point to clip of LISTA cable for ATF Error signal measurement.
2. Open the SERVO ADJUST menu on Service menu and select the EVR "A10:PB GAIN".
3. Playback the LISTA alignment tape.
4. Select the "<6> ATF Error Signal Monitor" on the LISTA main menu and after appear the message "1.2% Speed...", press ENTER key, then sensitivity value as real time and waveform appear on the screen as shown as figure below.
5. Adjust EVR "A10 PB GAIN" so that the sensitivity value is within specification.
6. After finish this adjustment, press ESC key to exit to the main menu.



5-37. LISTA Sensitivity Adjustment (DV Compatibility)

SPEC.	Sensitivity: 130 ± 30 (mV/um)
MODE	PLAY
TEST POINT	TP5902: ATF ERR (TP902 on RF Board) TP5759: RP HSW (TP759 on RF Board) TG5751: GND (TP751 on RF Board)
ADJUSTMENT	A12:DV GAIN
TAPE	NTSC: VFM3581KM (LISTA) PAL: VFM3681KM (LISTA)

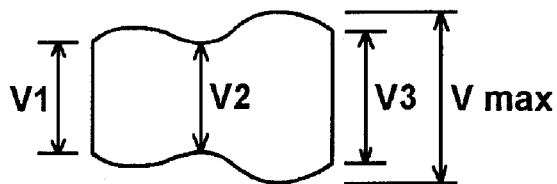
1. Connect the Test Point to clip of LISTA cable for ATF Error signal measurement.
2. Open the SERVO ADJUST menu on Service menu and select the EVR "A12:DV GAIN".
3. Playback the LISTA alignment tape.
4. Select the "<<6> ATF Error Signal Monitor" on the LISTA main menu and after appear the message "1.2% Speed..." , press ENTER key, then sensitivity value as real time and waveform appear on the screen as shown as figure below.
5. Adjust EVR "A12 DV GAIN" so that the sensitivity value is within specification.
6. After finish this adjustment, press ESC key to exit to the main menu.



5-38. Self-Recording Playback Envelope Waveform Confirmation

SPEC	$V1/V_{max}, V2/V_{max}, V3/V_{max} \geq 0.8$
TEST POINT	TP5251:R/P ENV (TP251 on RF Board) (RP ENV is selected by Service menu) TP5759:TRIG (TP759 on RF Board)
ADJUSTMENT	S1 and T1 Post Height
MODE	PLAY
TAPE	Blank Tape
M.EQ	Oscilloscope
TOOL	VFK1149(Post Driver)

1. Record the color bar signal.
2. Open the MODE SELECT menu on Service menu and set the item "B05 PB HEAD" to "RP"(counter displayed 00001).
3. Play back the recorded portion and confirm that the envelope output is within specification
4. If out of specification, perform the Envelope Waveform and LISTA adjustment again.



6. MAJOR MECHANISM PARTS REPLACEMENT AND ADJUSTMENT PROCEDURE

GENERAL

When mechanical parts are replaced, pay attention to the following notes.

1. Always turn power off before replacing any parts.
2. If any adjustment is necessary after the parts is replaced, perform the adjustment after replacement.
3. Use proper hard tools of fixtures.
4. Be sure to clean the parts after replacement, Also when the mechanical parts are replaced, follow the replacement procedure.

6-1. Cylinder Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Bottom Plate Unit.
3. Remove the Front Loading Unit.
4. Disconnect the connector P2001, P2002, P2003 and P2004 on the Servo P.C.Board as shown in Figure 6-1-1.

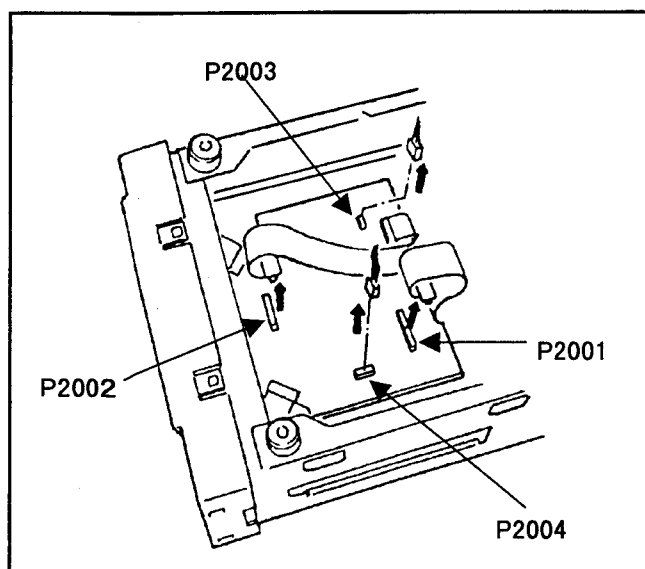


Fig. 6-1-1

6. Disconnect the connector P5001 and P5201 on RF AMP P.C.Board, which are connected between the Cylinder Unit and the RF P.C.Board as shown in Figure 6-1-2.

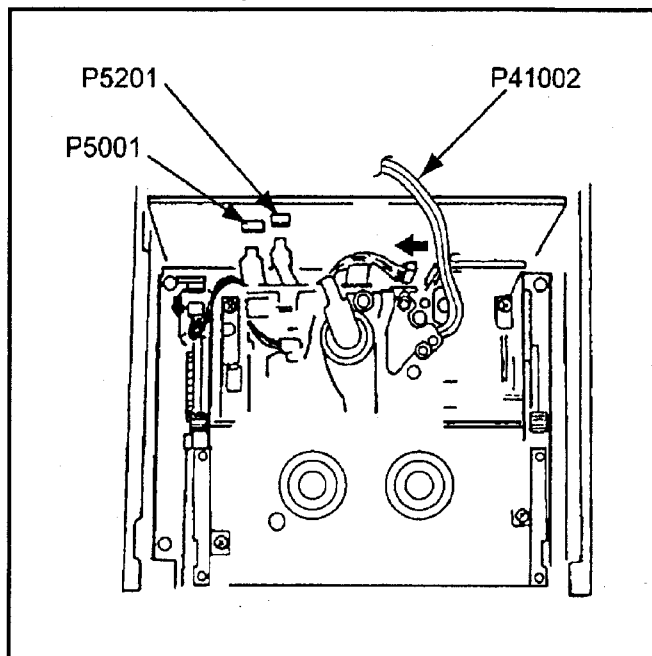


Fig. 6-1-2

Note: Be careful when remove the flexible cable from the connector for flexible cable. Please refer to how remove the connector as shown in Figure 6-1-3

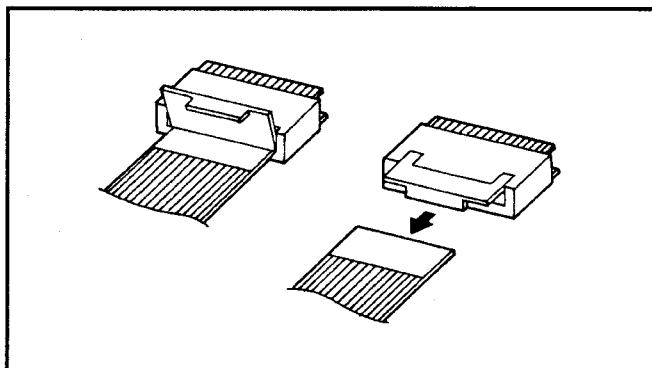


Fig. 6-1-3

5. Disconnect the connector P41002 on AUDIO P.C.Board, which connected between A/C Head and AUDIO P.C.Board as shown in Figure 6-1-2.

7. Unscrew the 4 screws on the Plate, which plate installed Mech Chassis Unit. And remove the Mech Chassis Unit with Plate from VTR as shown in Figure 6-1-4.

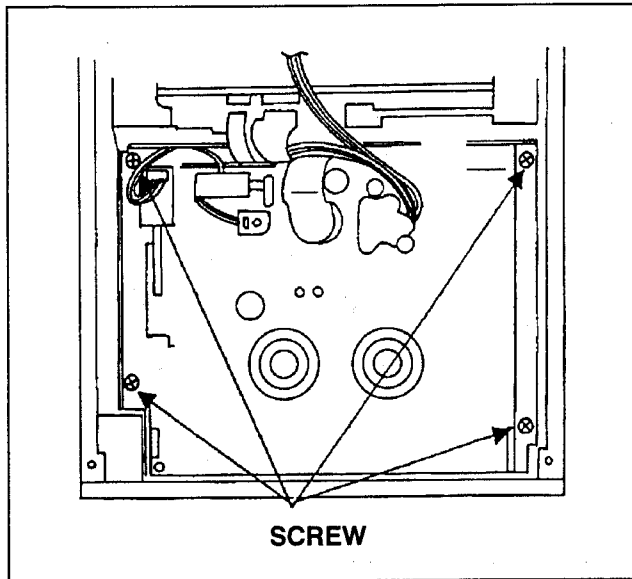


Fig. 6-1-4

8. Unscrew the 2 screws and remove the T1 GUIDE (Refer to item 6-8-1)
9. Remove the Cleaning Arm Unit (Refer to item 6-8)

10. Disconnect the connector P2033 on the Servo P.C.Board. And remove the 3 screws which have spring from the Cylinder Unit as shown as Figure 6-1-5, then remove the Cylinder Unit without touching any mechanical parts as shown in Figure 6-1-6.

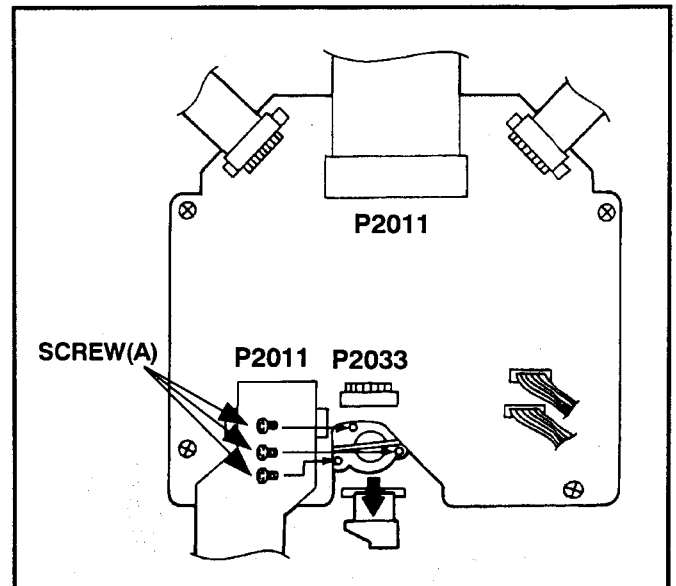


Fig. 6-1-5

NOTE: Never touch the cylinder by finger directly, when pull out the Cylinder Unit

(Installation)

1. Install the new Cylinder Unit on the previous steps in reverse order.
2. After installation of T1 Guide, T1 Guide position adjustment should be performed as follows.

Note: When install the Cylinder Unit, the pin on Mech chassis should be match to hole of Cylinder Unit as shown in Figure 6-1-6.

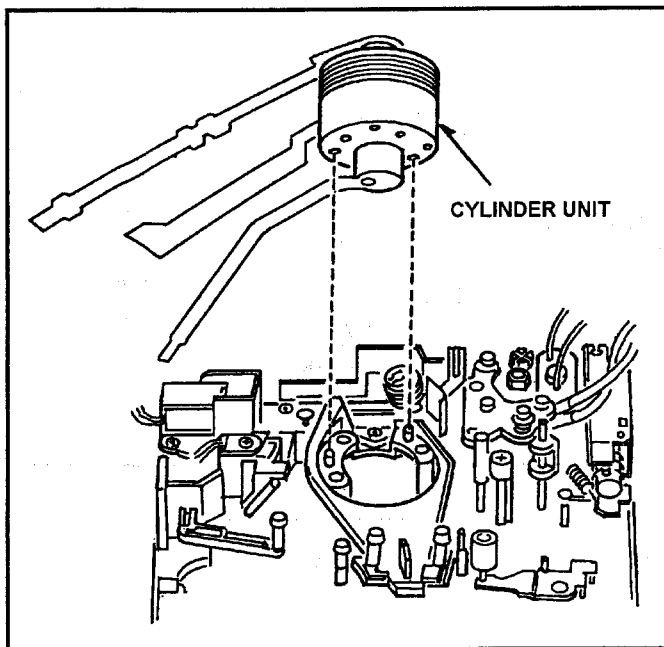


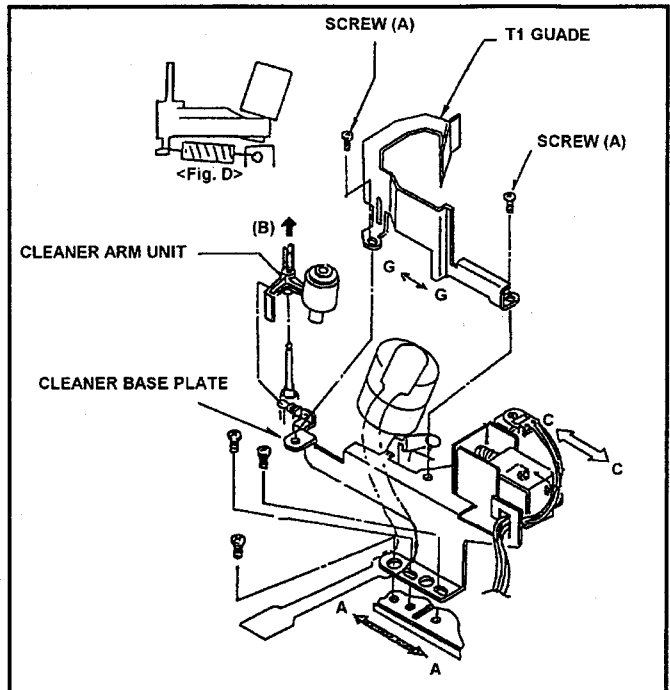
Fig. 6-1-6

[T1 Guide Position Adjustment]

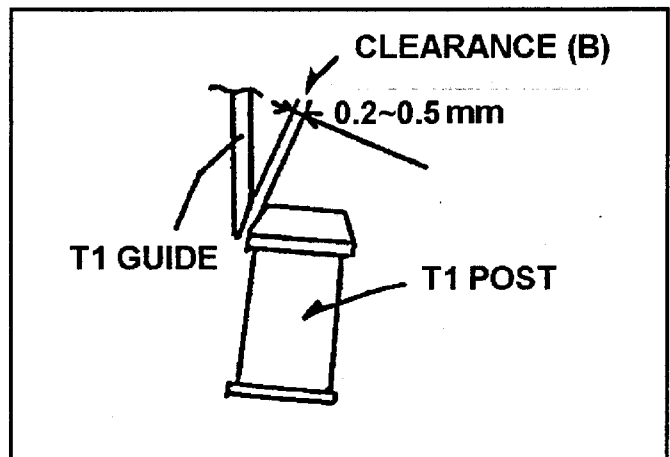
1. Place the Loading completed position.

< How to making the Loading Condition >

1. Open the "Servo Adjust" menu in the "Service Menu".
2. Select the item "T TORQUE" and press the BIGIN button for making the loading condition and turn power to off.
2. Observe the clearance (B) between T1 Guide and T1 post as shown in Figure. And make sure that it is within 0.2 to 0.5mm.
3. If not, loosen the 2 screws (A) and adjust the position of T1 Guide by moving arrow direction (G ⇌ G) so that the clearance (B) is within specification. And tighten the 2 screws (A).



Removal of Cleaner Roller Unit



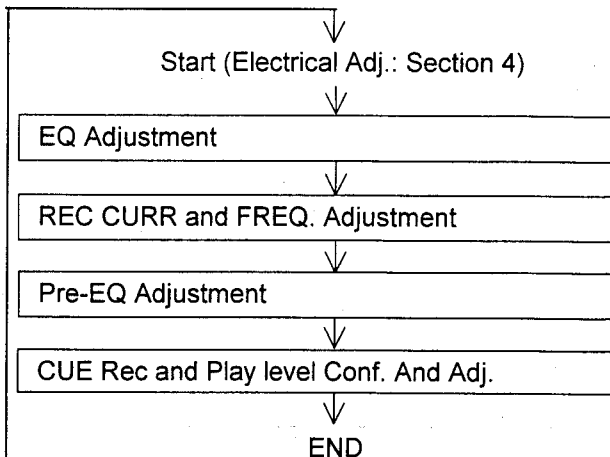
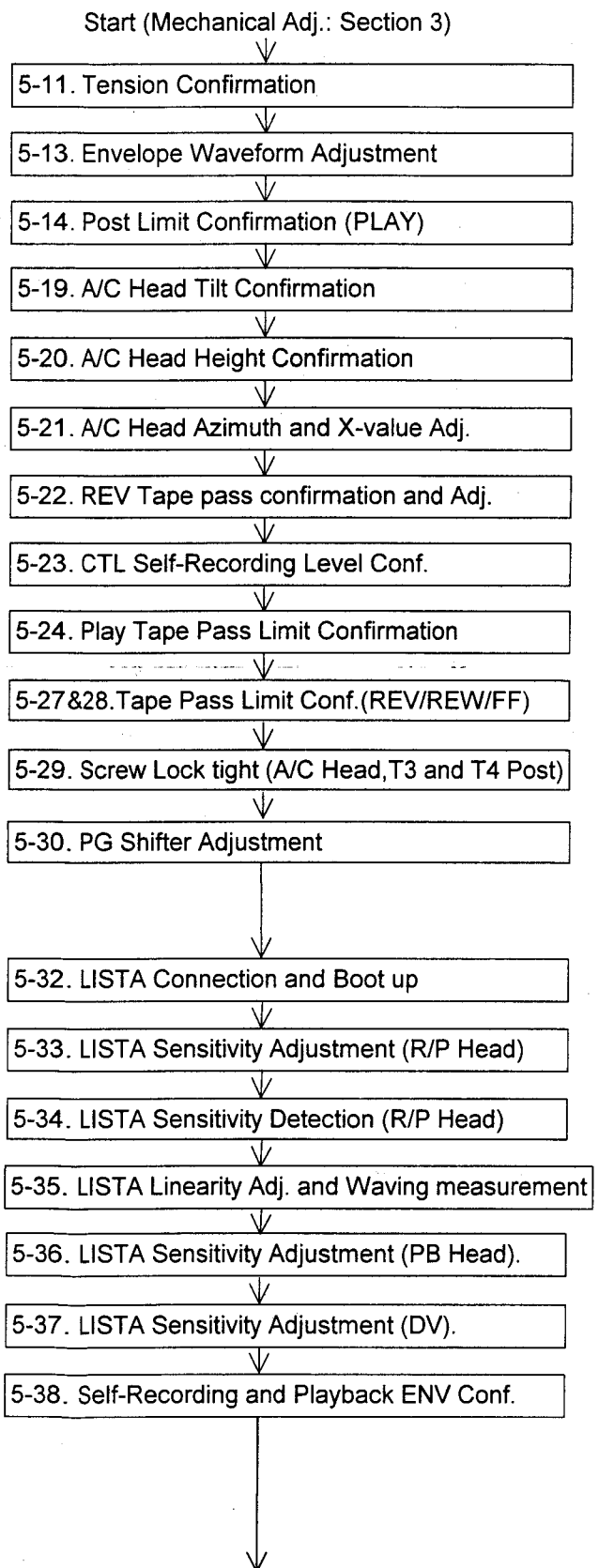
Adjust of T1 Guide

6-1-1. Adjustment Flow Chart After Cylinder Unit Replacement

1. After change the Cylinder Unit, please perform the following steps.

6-1-2. Adjustment Flow Chart after Cylinder Unit Replacement

1. Adjust following items after Cylinder Unit replacement.



NOTE: EQ, Pre-EQ, REC CURR and REC FREQ adjustment can be executed Automatically by use AUTO software.

NOTE: For the PG Shifter Adjustment, release hand from the search button after changing the PG Shifter value at right of "PG SFTR" on the monitor. If the value is not changed for a long time, tape error or ITI envelope lack may be occurred.

6-2. A/C Head Replacement

6-2-1. Replacement

- ※ Tools required:
- Nut Driver (5.5m/m)(VFK1150)
 - Hex Driver (VFK1148)
 - Hex Wrench (VFK1190)

(Removal)

1. Remove the Top Plate.
2. Loosen the hex screw (B) and remove the Nut (C). Hang off the Head Height Adjustment Spring and then remove the A/C Head Unit as shown in Figure 6-2-3.

Point: Memorized height of Nut (C) before remove the Nut (C),

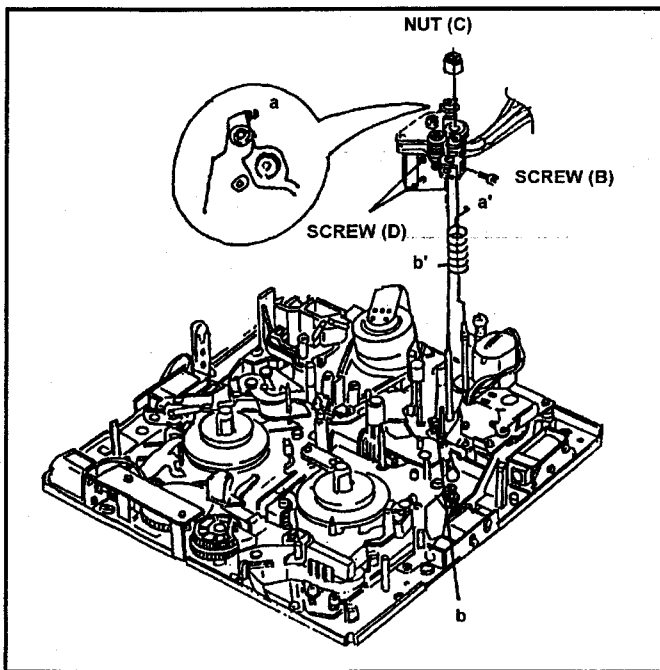


Fig. 6-2-3 Removal of A/C Head Unit

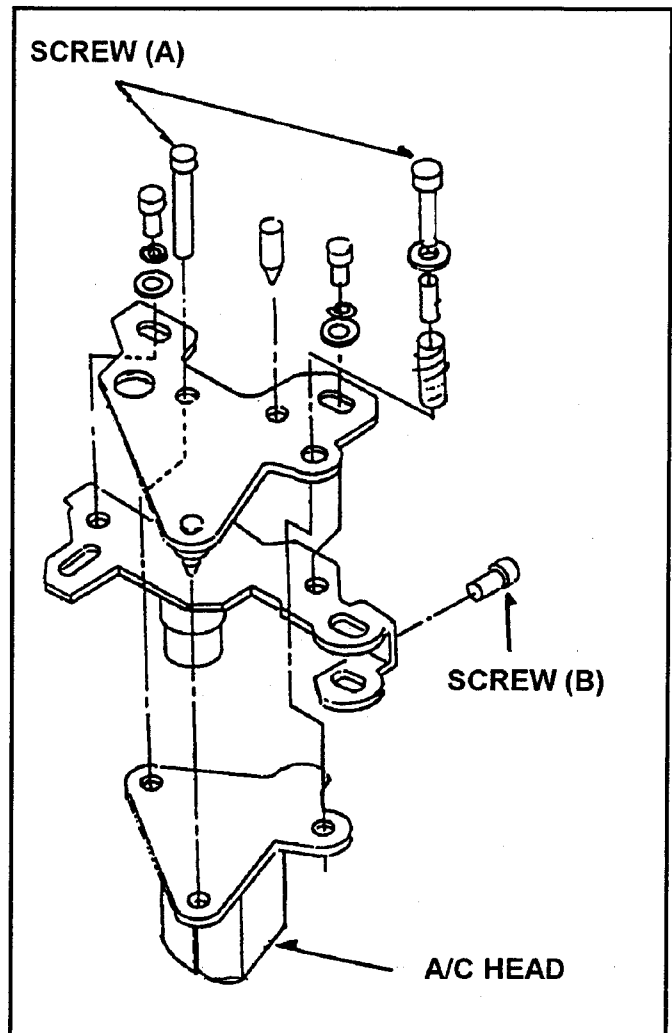


Fig. 6-2-1 Removal of A/C Head

3. Remove the 2 screws (A) and disconnect the connector P4502 on the AUDIO and P2030 on the Servo P.C.Board, then remove the A/C Head from the A/C Head Plate.

4. Remove the Shield Cover by removing 2 screws (D) as shown in Figure 6-2-3.
5. Unsolder the lead wires (When unsolder the lead wires, do not unsolder all at the same time).

(Installation)

1. Remove the Shield Case from the New A/C Head and solder the lead wires to New A/C Head (Refer to Figure 6-2-2).
2. Reinstall the shield case to A/C Head.
3. Install the A/C Head to A/C Head Plate by tight 2 screws (A), then set to parallel the gap between A/C Head and A/C Head Plate.
4. Install the A/C Head Unit.
5. Hang on the Head Height Adjustment Spring and tighten the Nut (C).
6. Clean the surface of the A/C Head.

Note: After installation, Mechanical and Electrical adjustments should be performed and the hex screw (B) is kept loose until finish the A/C Head Height Adjustment.

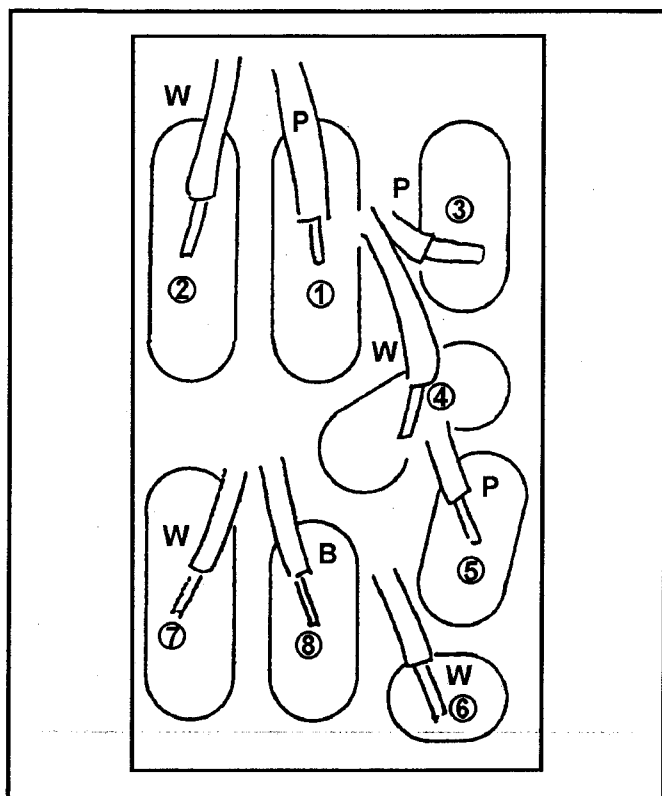
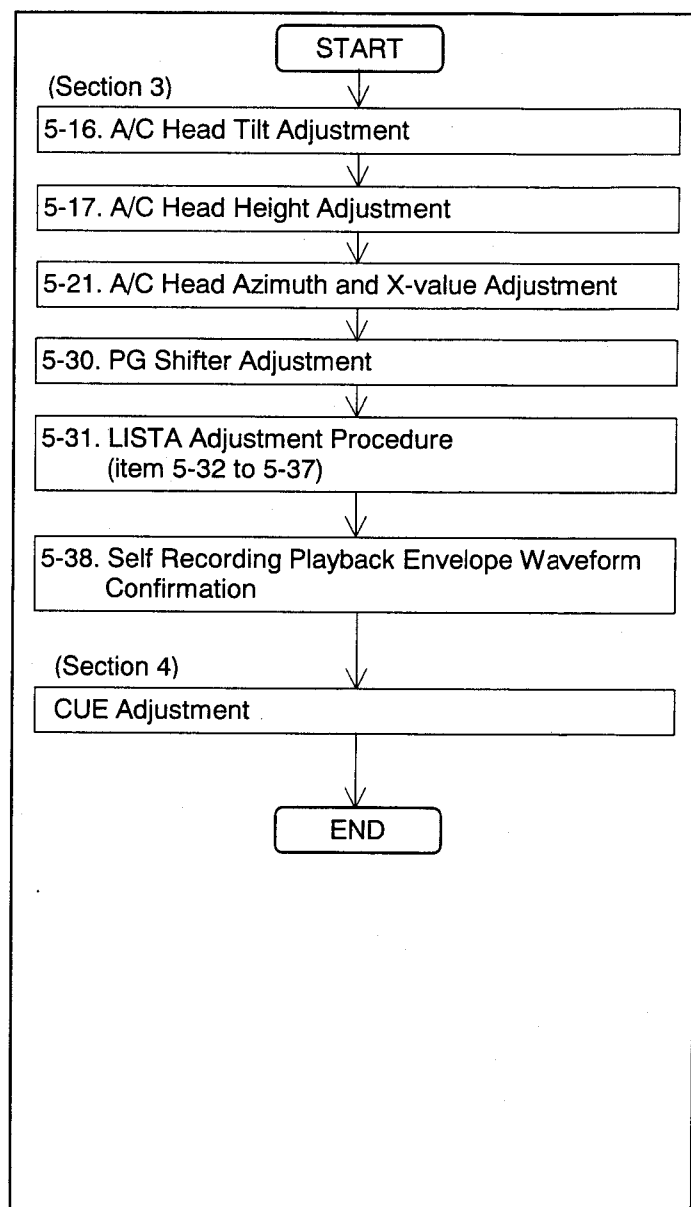


Fig. 6-2-2 Connection of A/C Head

A/C Head Side	Cable Color		Connector No.
1	PINK	YELLOW	P1
2	WHITE		
3	PINK	RED	
4	WHITE		
5	PINK	GREEN	P30
6	WHITE		
7	WHITE	YELLOW	
8	BLACK		

6-2-2. Adjustment Flowchart After A/C Head Adjustment

- After change the A/C Head, please perform the following steps.



6-3. Supply and Take Up Reel Rotor Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Disconnect the connector P2034 and P2035 on the Servo P.C.Board as shown in Figure 6-3-1.
5. Move the S1 post to loading direction by manual ejecting method until the screw (C) can removing position.
6. Confirm the supply and Take Up Brake are not release.
7. Press the iron core of M stopper solenoid to release the M stopper.
8. Remove the 4 screws (C), (D) and (E) as shown in Figure 6-3-1.
9. Remove the Supply and Take Up Reel Rotor Unit and Reel Outer Rail.

Note: Memorized the groove position of Reel Base, which inserted the pin of Drive Arm Unit.

(Installation)

1. Through in the Reel Outer Rail to New Supply and Take Up Reel Rotor Unit.
2. Hang on the Reel Rotor Unit to Reel Inner Rail and Install the Reel Rotor Unit then the pin of Drive Arm Unit should be matched with groove position of Reel Base as shown in Figure 6-3-3.
3. Install the 4 screws (C), (D) and (E).
4. Confirm that the Reel Rotor Unit moving smoothly on the Rail by hand.
5. Move the Reel Rotor Unit to front side by hand and then pull up the iron core of M stopper solenoid for operating M stopper.
6. Set the unloading condition by turn the Emergency shaft counter-clockwise.
7. Confirm that the Main Brake Torque. (Refer to item 5-3).
8. Connect the Flexible Cable to Connector P2034 and P2035 on the Servo P.C.Board.
9. Adjust the S Reel Torque Offset value (Refer to item 2-1 of section 4).
10. Adjust the T Reel Torque Offset value (Refer to item 2-2 of section 4).
11. Adjust the S Reel Motor Torque Offset value (Refer to item 2-3 of section 4).
12. Adjust the T Reel Motor Torque Offset value (Refer to item 2-4 of section 4).
13. Confirm that the Tension value on playback mode (Refer to item 5-11).

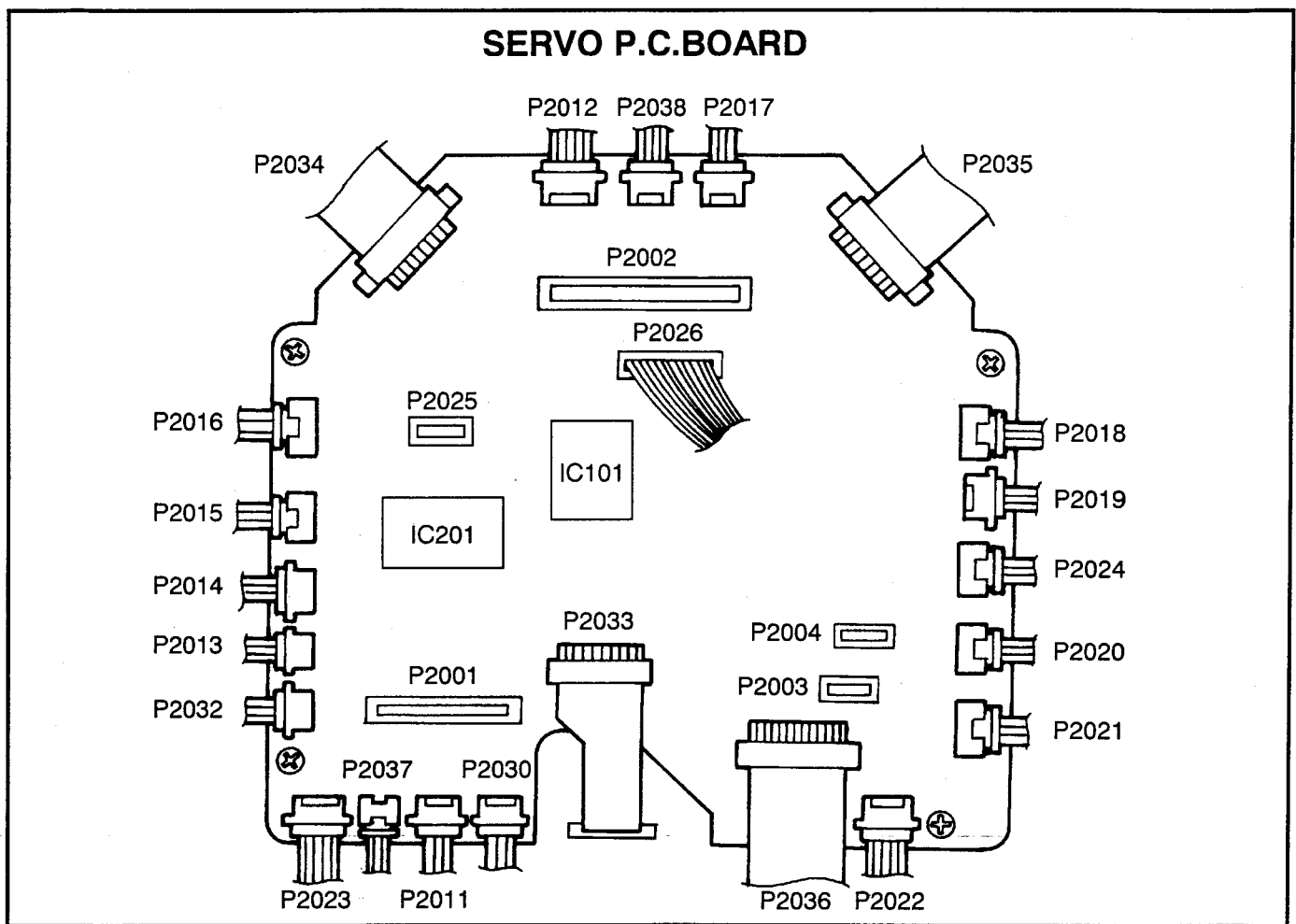


Fig. 6-3-1 Connection of Servo P.C.Board

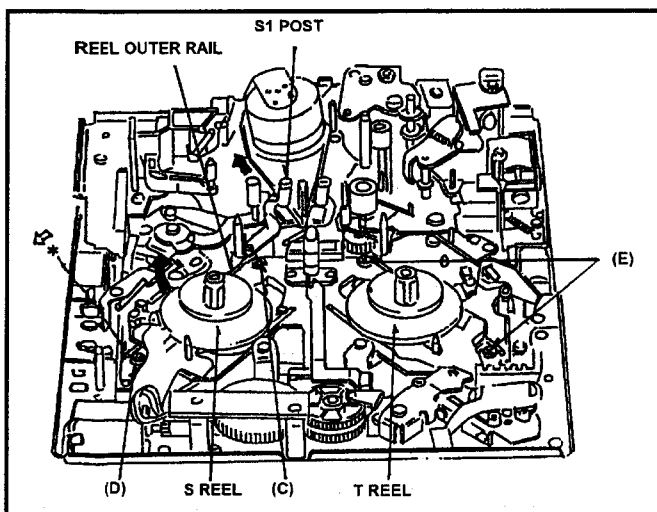


Fig. 6-3-2 Removal of S & T Reel Rotor Unit

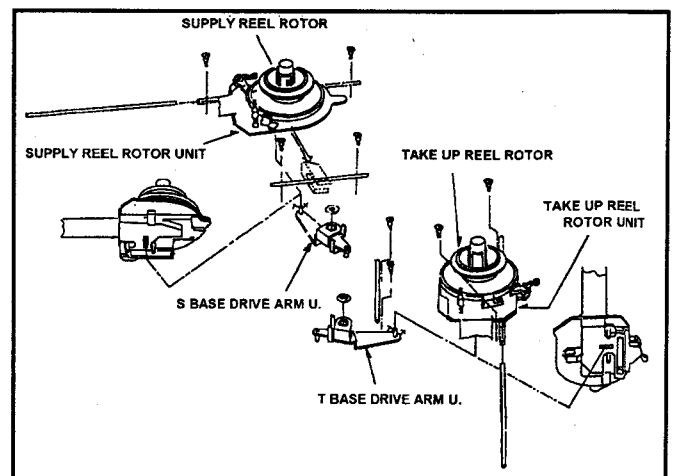


Fig. 6-3-3 Install of S & T Reel Rotor Unit

6-4. Loading Motor Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Disconnect the connector P2021 on Servo P.C.Board as shown in Figure 6-3-1.
5. Remove the Pinch Solenoid Unit (Refer to item 6-9).
6. Remove the Pinch Solenoid Lever. (Refer to item 6-5).
7. Unscrew the screw (B), and remove the Emergency Shaft as shown in Figure 6-4-1.
8. Unscrew the 2 screws (C) and remove the Loading Motor Neutral Unit as shown in Figure 6-4-1.
9. Unscrew the 2 screws (D) and remove the Loading Motor Unit as shown in Figure 6-4-1.

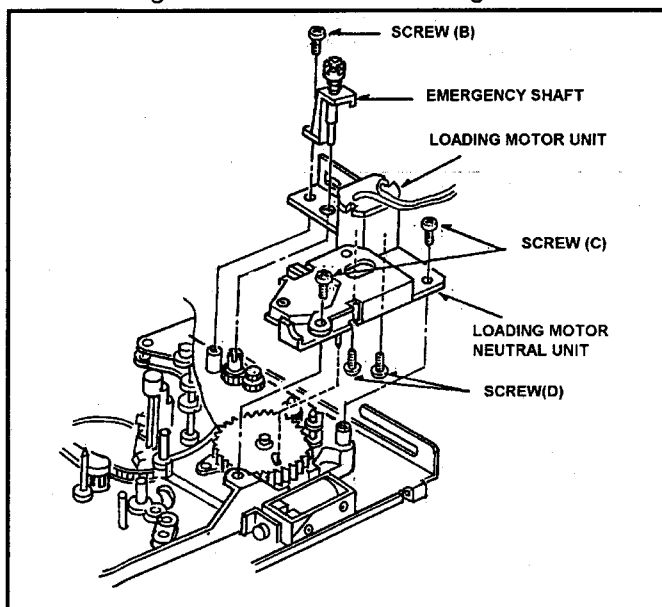


Fig. 6-4-1 Removal of Loading Motor Unit

(Installation)

1. Install the new Loading Motor Unit to Loading Motor Neutral Unit by tightening 2 screws (D).
2. Install the Loading Motor Neutral Unit by tightening the 2 screws (C), then be careful that the pin of Mode SW Unit should be matched to groove position of main Cam Gear.
3. Install the Emergency Shaft by tightening the screw (B).
4. Install the Pinch Solenoid Unit and after installation it, Pinch Solenoid Position adjustment is required. (Refer to item 5-3).

6-5. Pinch Arm Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Disconnect the connector P2020 on the Servo P.C.Board as shown in Figure 6-3-1.
5. Remove the Pinch Solenoid Unit (Refer to item 6-9, then hang off the Pinch Solenoid Lever as shown in Figure 6-5-1).
6. Remove the cut washer (A) and remove the Pinch Solenoid Lever as shown in Figure 6-5-1.
7. Remove the cut washer (B) and remove the Pinch Arm Unit as shown in Figure 6-5-1.

(Installation)

1. Install the new Pinch Arm Unit follow the removal steps in reverse order then Pinch Solenoid Position Adjustment is necessary (Refer to item 5-2).

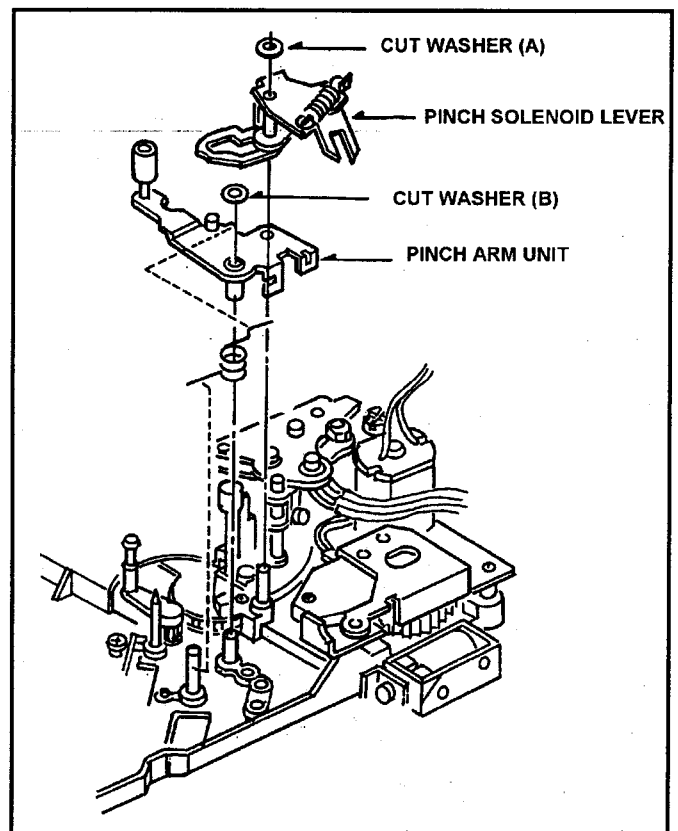


Fig. 6-5-1 Removal of Pinch Arm Unit

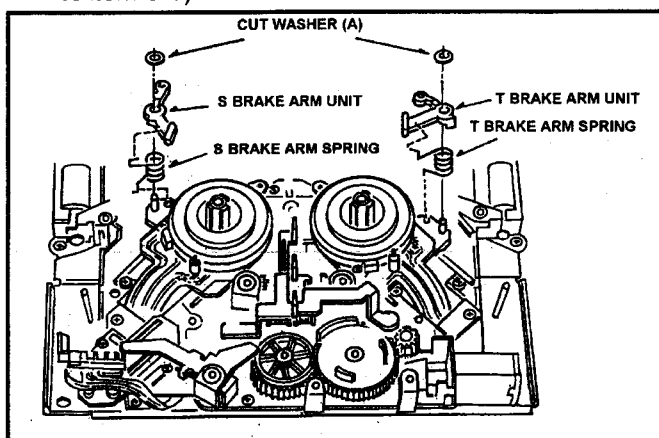
6-6. Supply and Take Up Brake Arm Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Press the iron core of Brake Solenoid for release the Brake.
4. Remove the cut washers (A) and remove the supply and Take Up Brake Arm Unit as shown in Figure 6-6-1.

(Installation)

1. When install the new Brake Arm Unit first, hang on the Brake Arm Spring as shown in Figure 6-6-1.
2. Follow the previous steps in reverse order.
3. Main Brake Torque confirmation is required (Refer to item 5-3).



4. Confirm that the Tension value on the Playback mode (Refer to item 5-11).

Fig. 6-6-1 Removal of S & T Brake Arm Unit

6-7. Mode Select Switch Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit..
4. Disconnect the connector P2022 on the Servo P.C.Board as shown as Figure 6-3-1.
5. Remove the Pinch Solenoid Unit and Loading Motor Neutral Unit (Refer to item 6-4).
6. Remove the screw (D) and remove the Mode Select Switch Unit from Loading Motor Neutral Unit as shown in Figure 6-7-1.

(Installation)

1. Install the New Mode Select Switch Unit follow the removal steps in reverse order (Please refer to item [6-4. Loading Motor Unit Replacement]).

Note: Be careful the pin of Mode Switch Unit should be matched to groove of Main Cam Gear.

2. After install the Pinch Solenoid Unit, Pinch Solenoid Position adjustment is required (Refer to item 5-2).

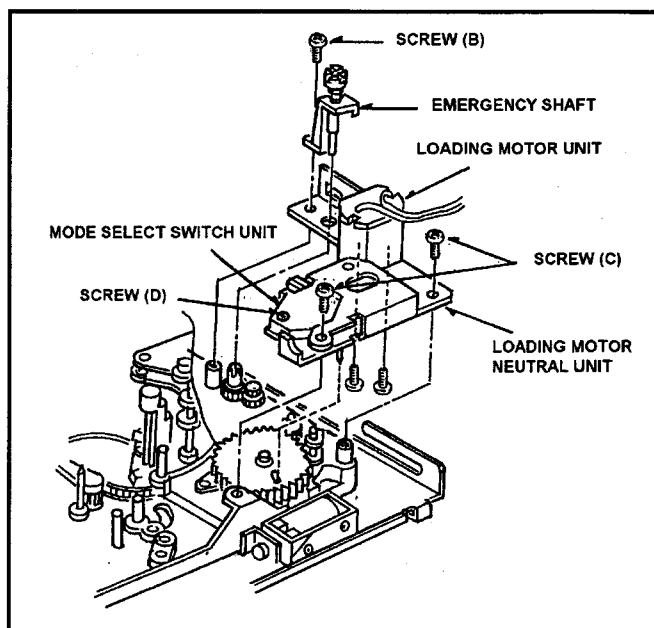


Fig. 6-7-1 Remove of Mode Select Switch Unit

6-8. Cleaning Arm Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Unscrew the 2 screws (A) and remove the T1 Guide.
3. Hang off the tip portion (B) of cleaning Arm Unit and hang off the spring from Cleaner Arm Unit, then remove the Cleaning Arm Unit as shown in Figure 6-8-1.

(Installation)

1. Install the Cleaning Arm Unit, then hang on the spring to Cleaning Arm Unit.
2. Install the T1 Guide by tightening 2 screws (A).
3. Press the iron core of the Cleaner Solenoid and confirm that the Cleaner Roller is rotated, when the cylinder is rotated by hand.
4. T1 Guide position adjustment should be performed as follows.

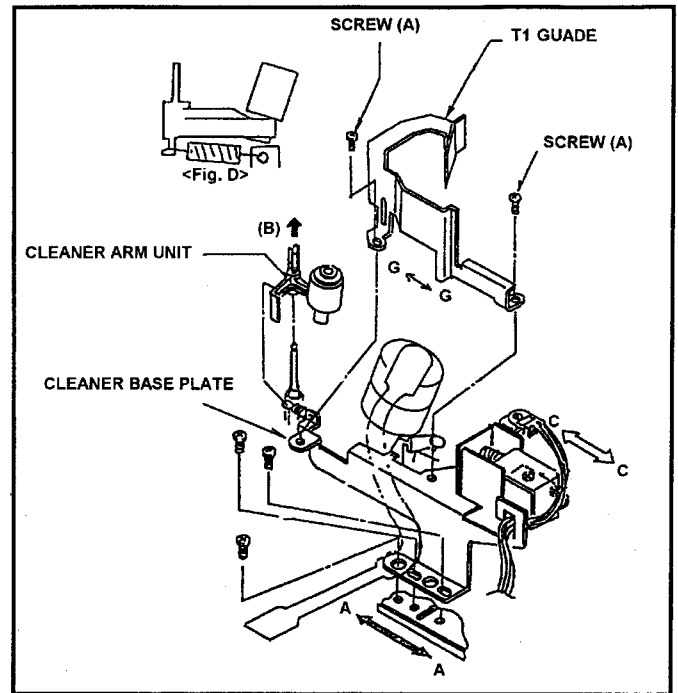


Fig. 6-8-1 Removal of Cleaner Roller Unit

6-8-1. T1 Guide Position Adjustment

Place the Loading completed position.

< How to making the Loading Condition >

- Open the "Servo Adjust" menu in the "Service Menu".
- Select the item "T TORQUE" and press the BEGIN button for making the loading condition and turn power to off.

1. Observe the clearance (B) between T1 Guide and T1 post as shown in Figure 6-8-2. And make sure that it is within 0.2 to 0.5mm.
2. If not, loosen the 2 screws (A) and adjust the position of T1 Guide by moving arrow direction (G \leftrightarrow G) so that the clearance (B) is within specification. And tighten the 2 screws (A).

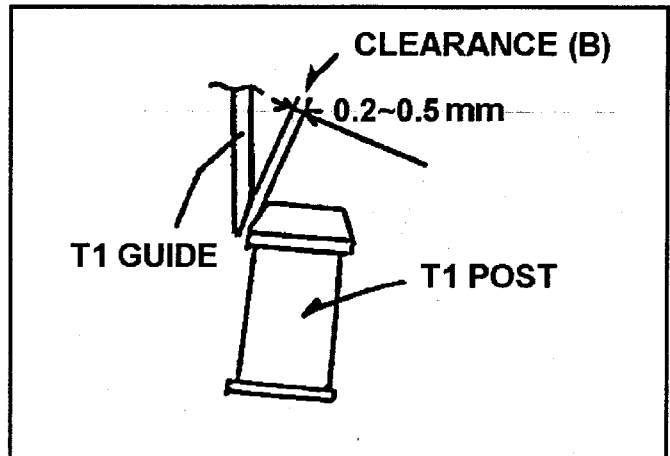


Fig. 6-8-2 Adjust of T1 Guide

6-9. Pinch Solenoid Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Disconnect the connector P2020 on the Servo P.C.Board as shown in Figure 6-3-1.
5. Unscrew the 2 screws (A) and remove the Pinch Solenoid Unit as shown in Figure 6-9-1.
6. Unscrew the 2 screws (B) and remove the Pinch Solenoid Angle as shown in Figure 6-9-1.
7. Unscrew the 2 screws (C) and remove the Pinch Solenoid from the Pinch Solenoid Base.

(Installation)

1. Install the new Pinch Solenoid follow the removal steps in reverse order.
2. After installation, Pinch Solenoid Position Adjustment is required (Refer to item 5-2).

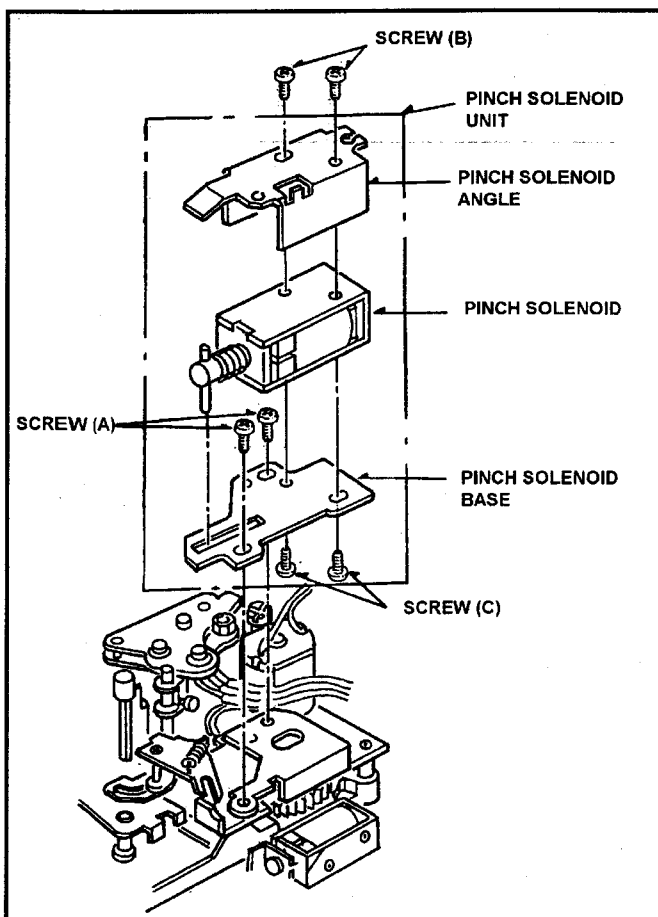


Fig. 6-9-1. Removal of Pinch Solenoid

6-10. Supply Brake Solenoid Replacement and Adjustment

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Disconnect the connector P2015 on the Servo P.C.Board.
5. Unscrew the 2 screws (A) and remove the Supply Brake Solenoid Base Unit as shown in Figure 6-10-1.
6. Unscrew the 2 screws (B) and remove the supply Brake Solenoid from Supply Brake Solenoid Base Unit as shown in Figure 6-10-1.

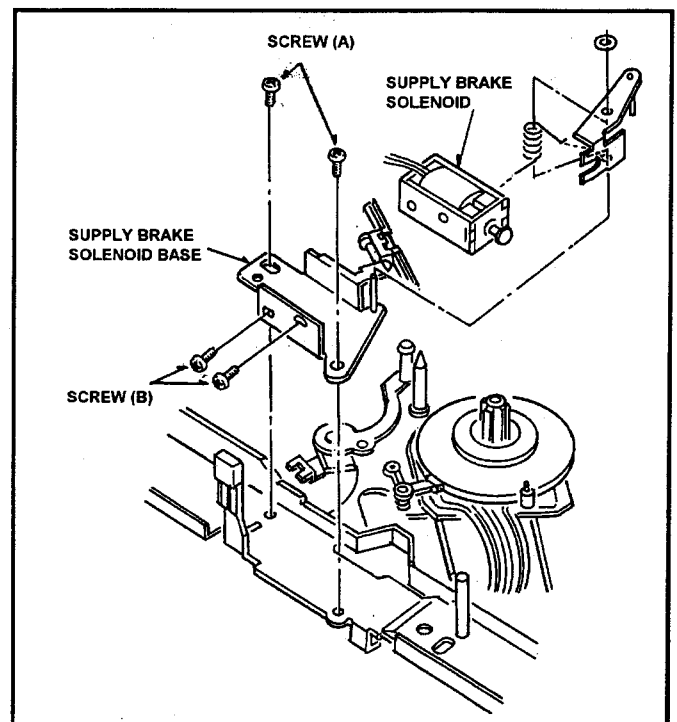


Fig. 6-10-1 Removal of Supply Brake Solenoid

(Installation)

1. Install the new supply Brake Solenoid follow the removal steps in reverse order.

(Adjustment)

1. Place the reels in the M cassette size position.
2. Observe the clearance (A) between Brake pad and it's turntable as shown in Figure 6-10-2. And make sure that it is within 0.2 to 0.5mm.
3. If not, loosen the 2 screws (A), which fixed supply and Take Up Brake Solenoid Unit. And adjust the position of Brake Solenoid Unit by moving arrow direction so that the clearance (A) is within specification. And tighten the 2 screws (A).
4. After adjustment, change the reel position to S and L cassette size, and confirm that the clearance (A) is within specification.

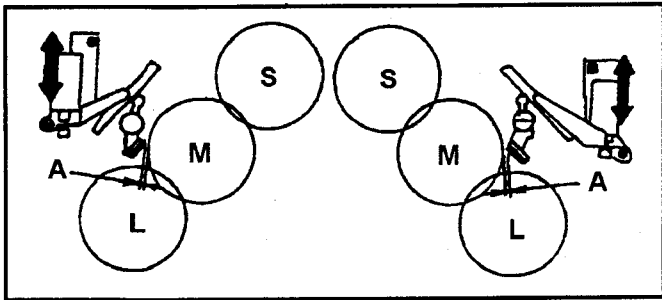


Fig. 6-10-2 Brake Solenoid Adjustment

6-11. Take Up Brake Solenoid Replacement and Adjustment

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Disconnect the connector P2018 on the Servo P.C.Board.
5. Unscrew the 2 screws (A) and remove the Take Up Brake Solenoid Base Unit as shown in Figure 6-11-1.
6. Unscrew the 2 screws (B) and remove the Take Up Brake Solenoid from Take Up Brake Solenoid Base Unit as shown in Figure 6-11-1.

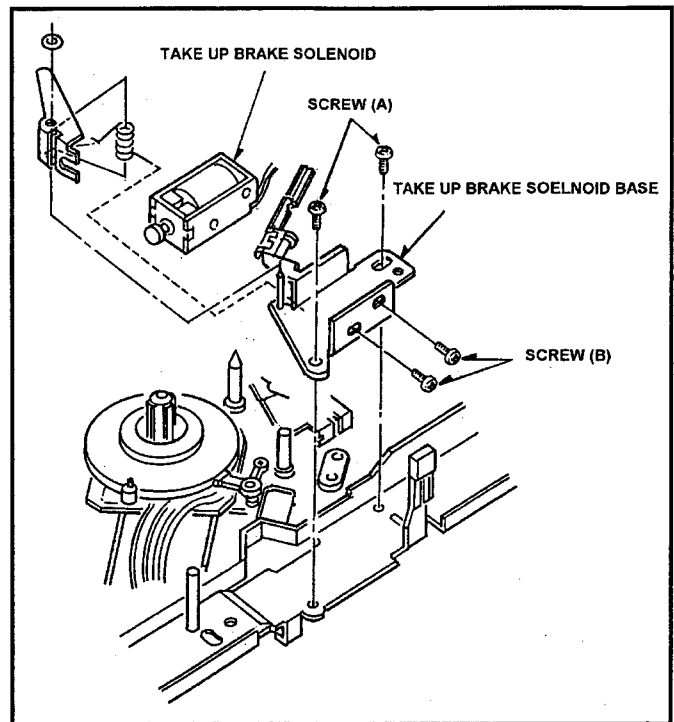


Fig. 6-11-1 Removal of Take Up Brake Solenoid

(Installation)

1. Install the new Take up Brake Solenoid follow the removal steps in reverse order.

Note: Hang on the Take up Brake Spring as shown in Figure 6-11-1.

2. After installation, position adjustment should be performed as follows.

(Adjustment)

1. Please adjust the position of Take up Brake Solenoid Unit follow the adjustment procedure, which is described item 6-10.

6-12. Distinction SW Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Disconnect the connector P2017 on Servo P.C.Board.
5. Remove the MIC Drive Rev Spring at Distinction Switch Unit side as shown in Figure 6-12-1.
6. Unscrew the 3 screws (A) and remove the MIC Rail Unit as shown in Figure 6-12-1.

(Installation)

1. Install the new Distinction Switch Unit follow the removal steps in reverse order.
2. Confirm that the M and L cassettes touch to Distinction Switch Unit correctly.

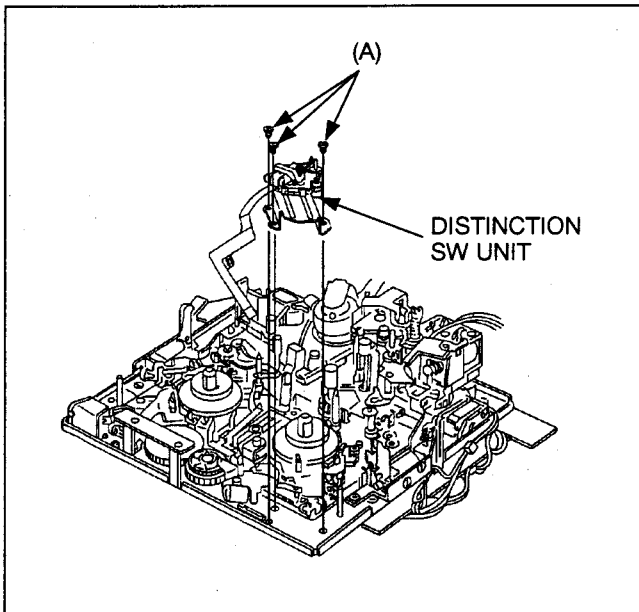


Fig. 6-12-1 Removal of Distinction Switch Unit

6-13. S1 Post Loading Arm Unit Replacement and Adjustment

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the S5 Post Base Unit (Refer to item 6-17).
4. Remove the Tension Arm Unit(Refer to item 6-18).
5. Unscrew the screw (A) and remove the S1 Post from Loading Rail as shown in Figure 6-13-1.
6. Remove the Cut Washer (B) and remove the S1 Loading Arm Unit as shown in Figure 6-13-1.

(Installation)

1. Install the new S1 Loading Arm Unit follow the removal steps in reverse order, then S1 Post Loading Arm Unit Phase Adjustment should be performed as follows.
2. After installation, confirm that the S1 Post moving smoothly on the Loading Rail.
3. Tension Arm (Refer to item 5-5) and Linearity Adjustment. (Refer to item 5-13) should be performed.

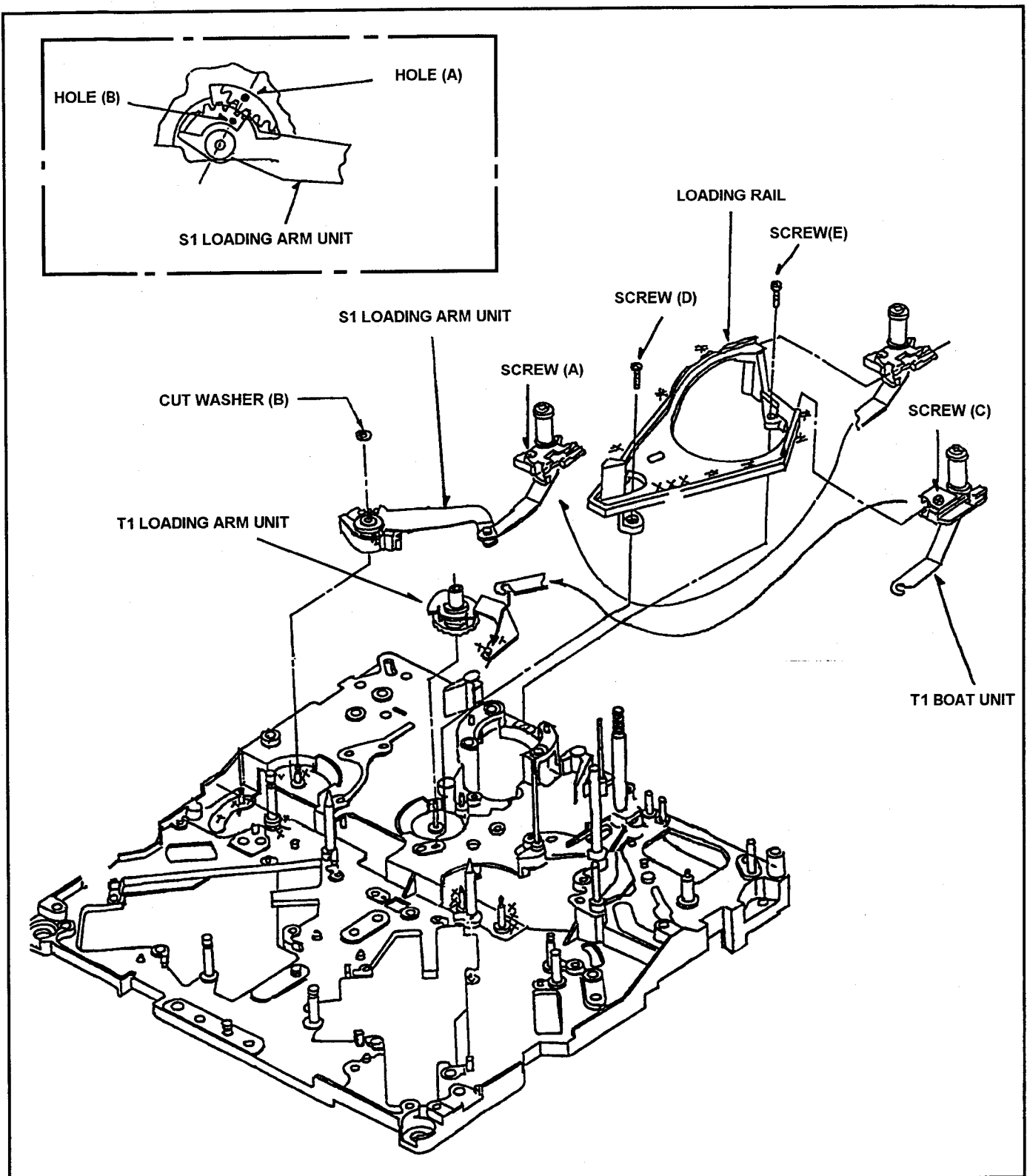


Fig. 6-13-1 Removal of S1 Post Loading Arm Unit

(Adjustment)

1. When install the S1 Post Loading Arm Unit, then the hole (A) should be matched hole (B) as shown in Figure 6-13-1.

6-14. T1 Boat Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Unscrew the screw (C) and remove the T1 Post from Loading Rail as shown in Figure 6-13-1.
4. Hang off the T1 Boat Unit from T1 Loading Arm Unit as shown in Figure 6-13-1.

(Installation)

1. Install the new T1 Boat Unit follow the removal steps in reverse order.
2. After installation confirm that the T1 Post moving smoothly on the Loading Rail.
3. Linearity adjustment (Refer to item 5-13) should be performed.

6-14-1. T1 Loading Arm Unit Replacement and Adjustment

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the cylinder Unit. (Refer to item 6-1).
4. Move the T1 Post to loading direction by manual ejecting method until the screw (D) can be removal position as shown in Figure 6-13-1.
5. Unscrew the 2 screws (A) and (C), then remove the S1 and T1 Post from Loading Rail as shown in Figure 6-13-1.
6. Unscrew the 2 screws (D) and (E), then remove the Loading Rail as shown in Figure 6-13-1.
7. Remove the T1 Loading Arm Unit as shown in Figure 6-13-1.

(Installation)

1. Install the T1 Loading Arm Unit follow the removal steps in reverse order, then Phase Adjustment should be performed as follows.

Note: This replacement should be performed simultaneously, replacement of Cylinder Unit. It is convenience for Replacement of T1 Loading Arm Unit.

(Adjustment)

1. When install the T1 Loading Arm Unit, then the hole (A) should be matched hole (B) as shown in Figure 6-14-1.
2. After installation confirm that the S1 and T1 Post moving smoothly on the Loading Rail.
3. Post Height Pre-adjustment (Refer to item 5-4) and Linearity adjustment (Refer to item 5-13 [Tape Pass Adjustment Procedure]) should be performed.

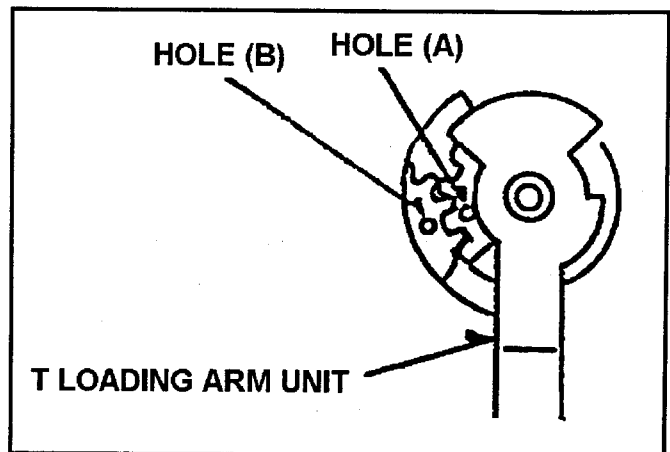


Fig. 6-14-1 Phase Adjustment of T1 Loading Arm Unit

6-15. Cleaner Solenoid Replacement and Adjustment

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Disconnect the connector P2037 on the Servo P.C.Board.
5. Unscrew the 2 screws (A) and remove the Cleaner Solenoid Unit as shown in Figure 6-15-1.
6. Unscrew the 2 screws (B) and remove the Cleaner Solenoid as shown in Figure 6-15-1.

(Installation)

1. Install the new Cleaner Solenoid follow the removal steps in reverse order.
2. After installation, Cleaner Solenoid Position adjustment should be performed as follows.

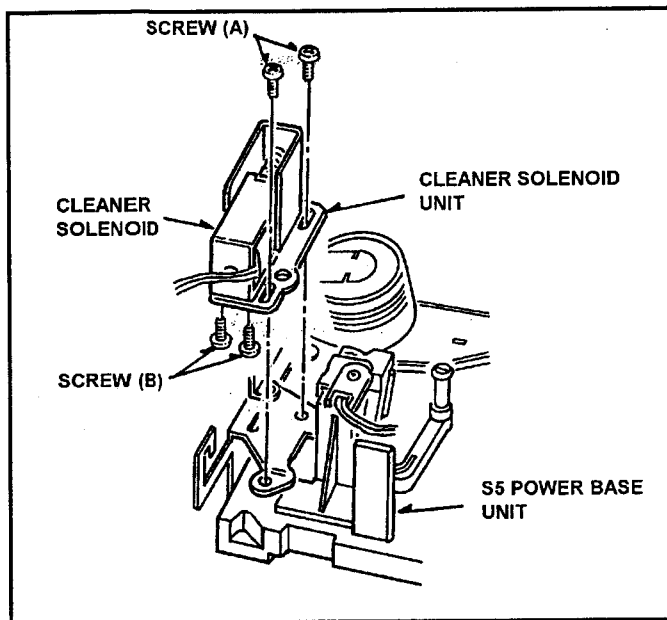


Fig. 6-15-1 Removal of Cleaner Solenoid

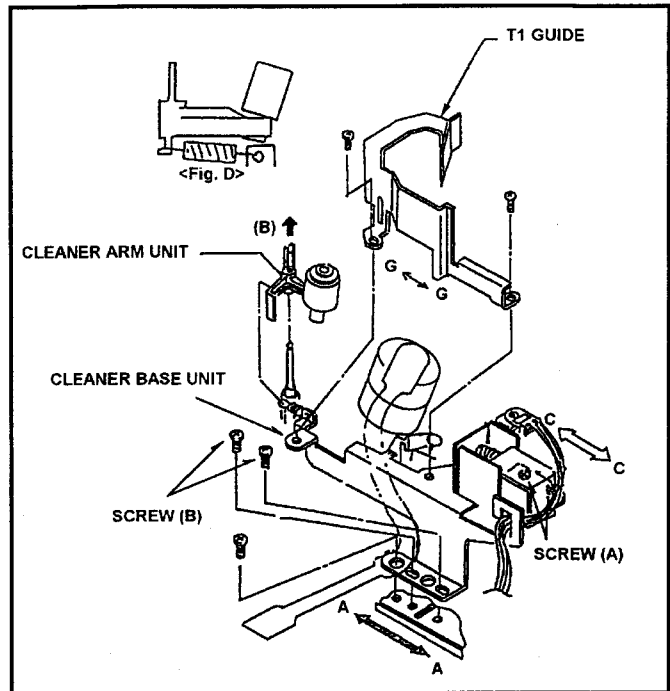


Fig. 6-15-4 Cleaner Solenoid Position Adjustment

6-15-1. Cleaner Solenoid Position Adjustment

※ Tools Required : Eccentric Driver (VFK0357)

1. Press the iron core of Cleaner Solenoid.
2. Observe the clearance (D) between Cleaning Arm Unit and Cleaner Base Plate as shown in Figure 6-15-2. And make sure that it is within 0.5 to 0.7mm.
3. If not, loosen the 2 screws (A) and adjust the position of Cleaner Solenoid Unit by moving arrow direction (C⇌C) using the Eccentric drive so that the clearance (D) is within specification. And tighten the 2 screws.
4. After adjustment, confirm that as follow.
5. Press the iron core of Cleaner Solenoid and released it, then the Cleaning Roller is return to original position.
6. Press the iron core of the Cleaner Solenoid and confirm that the Cleaner Roller is rotated, when the Cylinder is rotated by hand.

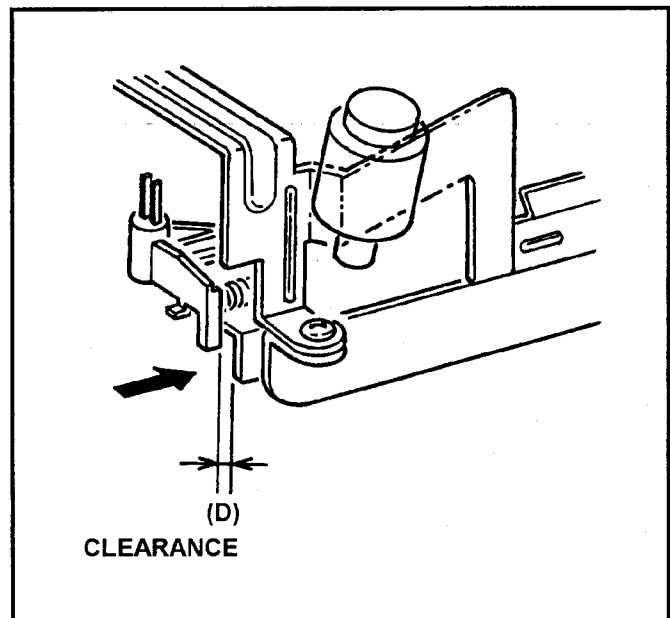


Fig. 6-15-2 Cleaner Solenoid Position Adjustment

Note: If remove the cleaner Base Plate, Cleaner roller Position adjustment should be performed.

6-15-2. Cleaner Roller Position Adjustment

※ Tools Required : Eccentric Driver (VFK0357)

1. Observe the clearance (A) between Cleaner Roller and cylinder Unit as shown in Figure 6-15-3. And make sure that it is within 1.0 to 1.2mm.
2. If not, loosen the 2 screws (B) and adjust the position of Cleaner Base Plate by moving arrow direction (A ⇔ A) using the Eccentric driver so that the clearance (A) is within specification. And tighten the 2 screws (B).

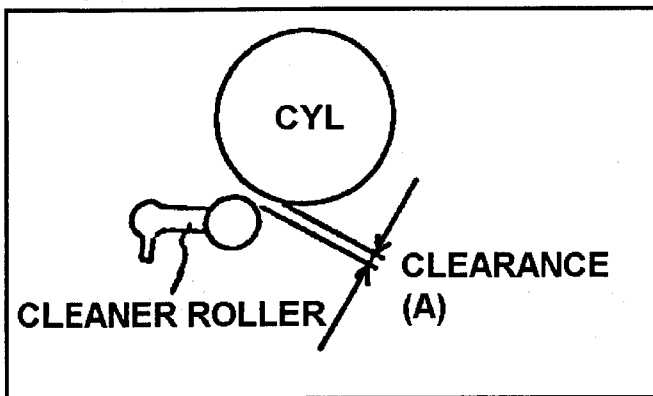


Fig. 6-15-3 Cleaner Roller Position Adjustment

6-16. Reel Drive Motor Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Disconnect the connector P2016 on the Servo P.C.Board.
5. Unscrew the 2 screws (A) and remove the Reel Drive Sensor P.C.Board as shown in Figure 6-16-1.
6. Unscrew the 2 screws (B) and remove the Reel Drive Motor Unit as shown in Figure 6-16-1.

(Installation)

1. Install the new Reel Drive Motor Unit follow the removal step in reverse order.

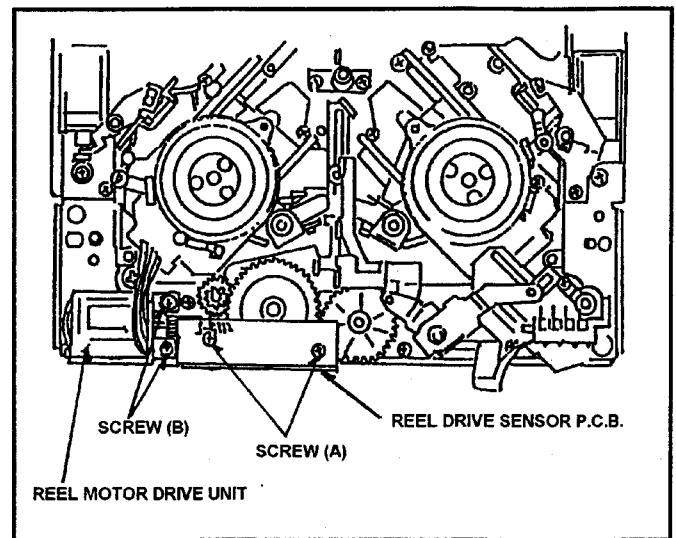


Fig. 6-16-1 Removal of Reel Drive Motor Unit

6-17. S5 Post Base Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Unscrew the screw (A) and remove the S5 Post Base Unit as shown in Figure 6-17-1.

(Installation)

1. Install the S5 post Base Unit follow the removal steps in reverse order, then be careful the S5 Post Base Unit is install to mech chassis as shown in Figure 6-17-1.
2. After installation, Post Height pre-adjustment (Refer to item 5-4) and Linearity adjustment (Refer to item 5-12 [Tape Pass Adjustment Procedure]) should be performed.

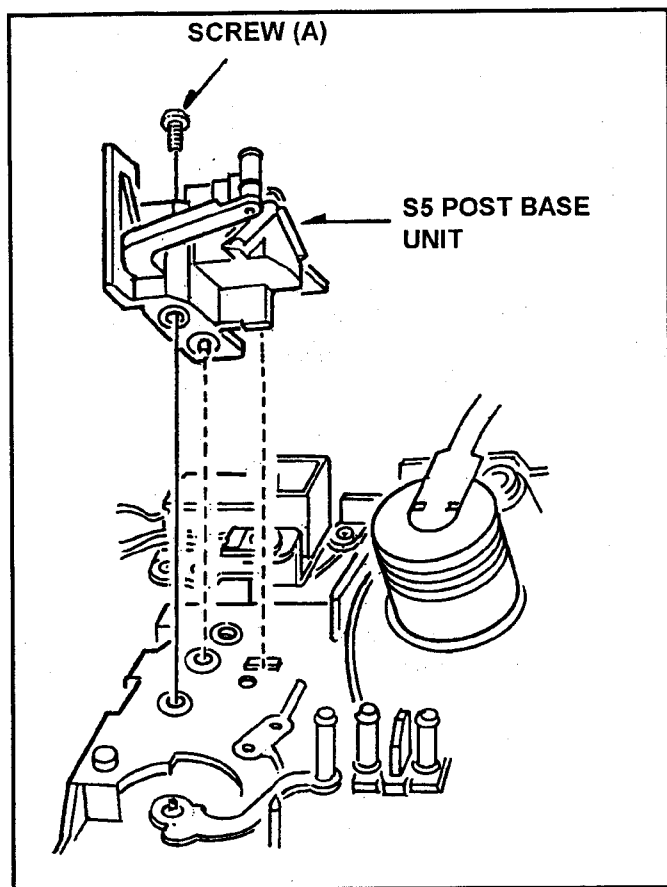


Fig. 6-17-1 Removal of S5 Post Base Unit

6-18. Tension Arm Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Cut Washer (A) and hang off the Tension Regi Spring, then remove the Tension Arm Unit as shown in Figure 6-18-1.

(Installation)

1. Install the new Tension Arm Unit follow the removal steps in reverses order.
2. After installation, Tension Arm Adjustment should be performed the following steps.

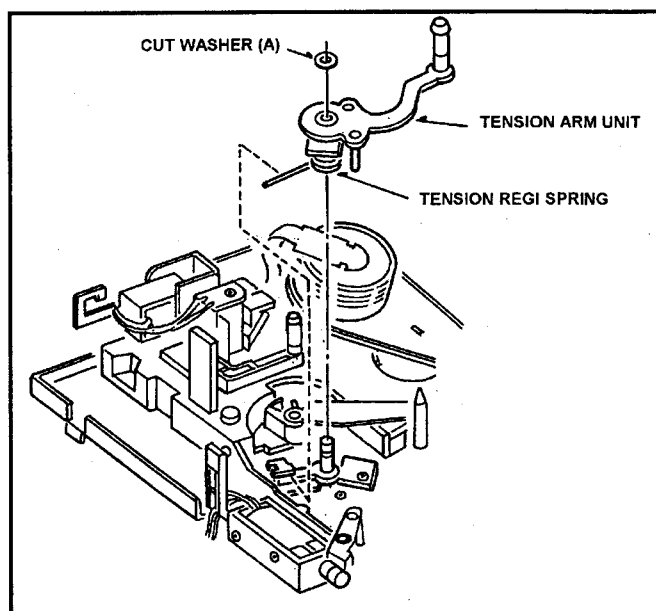
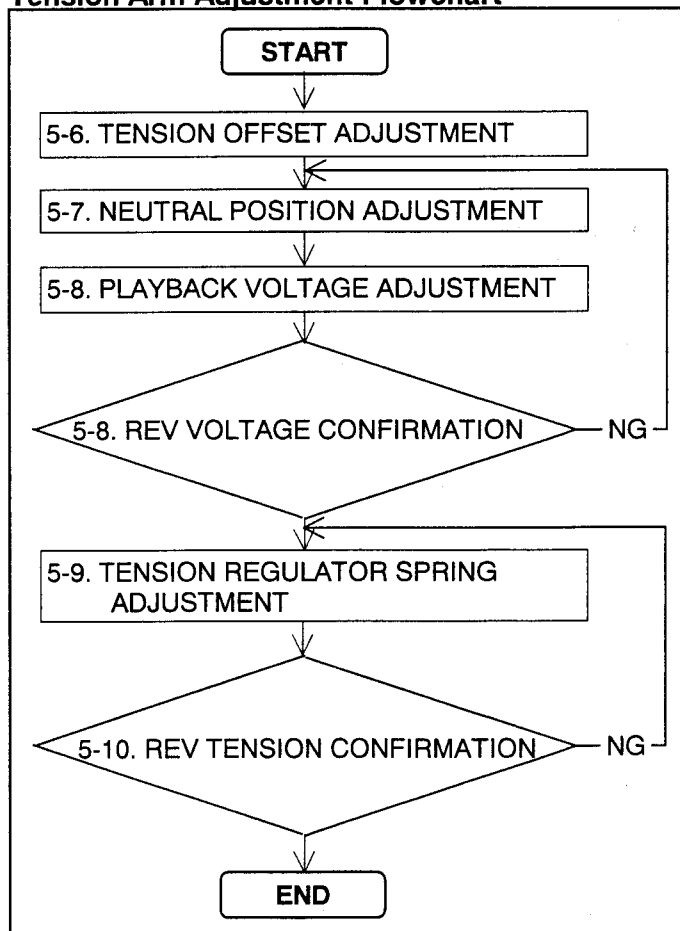


Fig. 6-18-1 Removal of Tension Arm Unit

Tension Arm Adjustment Flowchart



6-19. Main Cam Gear Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Pinch Solenoid Unit (Refer to item 6-5) and Loading Motor Neutral Unit (Refer to item 6-4).
4. Remove the Main Cam Gear as shown in Figure 6-19-1.

(Installation)

1. Install the Main Cam Gear, then the pin of Main Cam Arm Unit (※) should be matched with the groove position of Main Cam Gear as shown in Figure 6-19-1.
2. Follow the removal steps in reverse order.
3. After installation, Pinch Solenoid Position Adjustment is required (Refer to item 5-2).

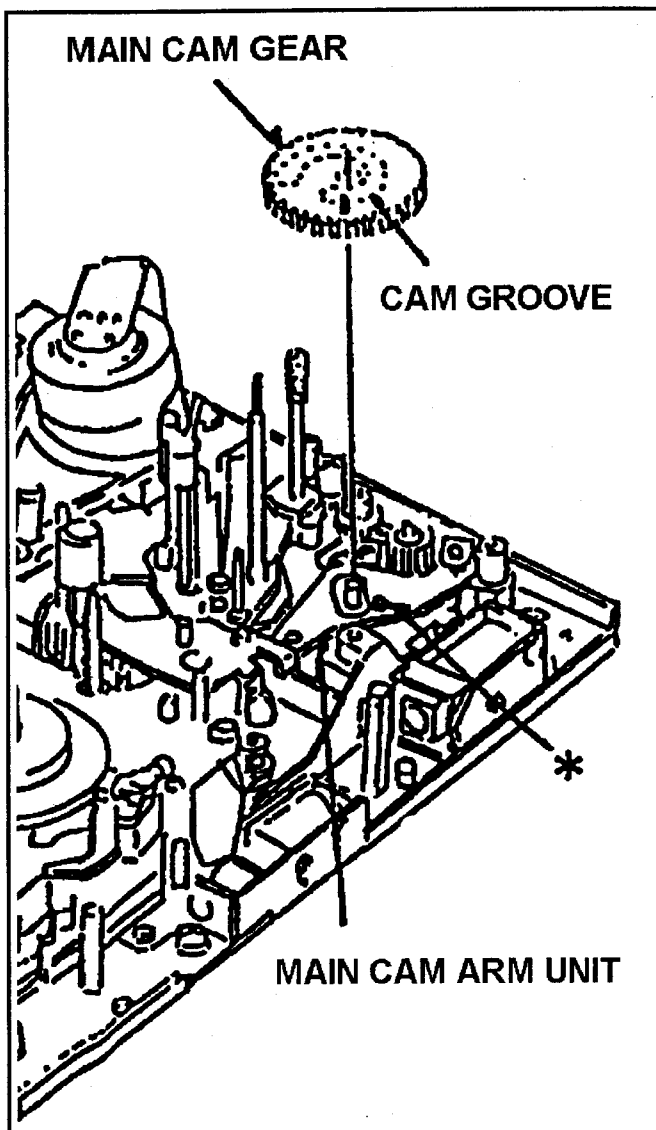


Fig. 6-19-1 Removal of Main Cam Gear

6-20. M-Stopper Solenoid Replacement And Adjustment

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Remove the Bottom Plate Unit.
4. Remove the connector P2024 on the Servo P.C.Board.
5. Unscrew the 4 screws (A) and (B) and remove the M-Stopper Solenoid as shown in Figure 6-20-1.

(Installation)

1. Install the new M-Stopper Solenoid follow the removal steps in reverse order.
2. After installation, position adjustment should be performed as follows.

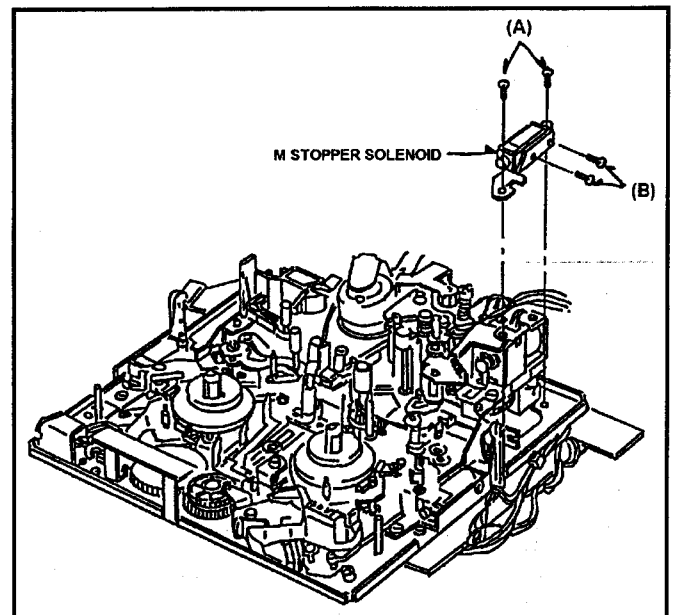


Fig. 6-20-1 Removal of M-Stopper Solenoid

(Adjustment)

1. Place the reels in the L size position.
2. Push the iron core of M-Stopper Solenoid by hand.
3. Observe the clearance (A) between Mech Chassis and M-Stopper as shown in Figure 6-20-2. And make sure that it is within 1.1 to 1.3mm.
4. If not, loosen the 2 screws (A), which fixed M-Stopper Solenoid. And adjust the position of M-Stopper Solenoid so that the clearance (A) is within specification. And tighten the 2 screws (A).

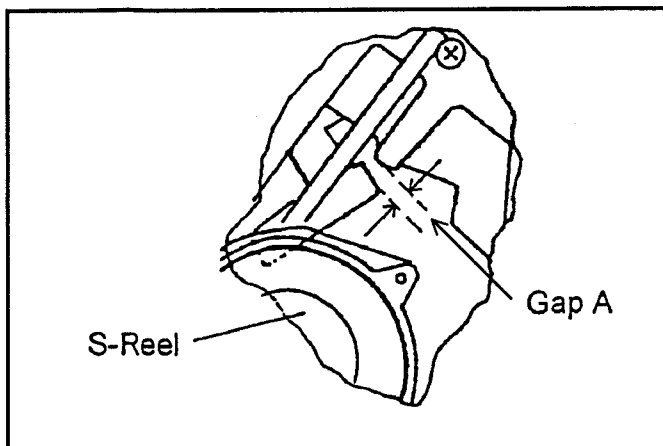


Fig. 6-20-2 M-Stopper Solenoid Adjustment

6-21. L-M Release Angle Unit Replacement

(Removal)

1. Remove the Top Plate.
2. Remove the Front Loading Unit.
3. Unscrew the 2 screws (A) and remove the L-M Release Angle Unit as shown in Figure 6-21-1.

(Installation)

1. Install the new L-M Release Angle Unit follow the removal steps reverse order.

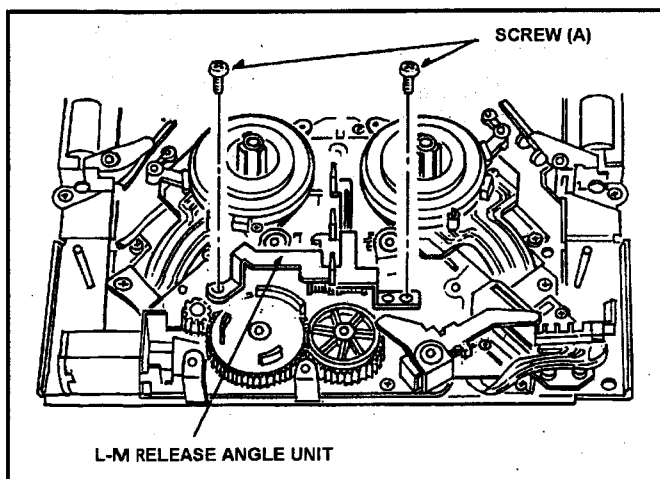


Fig. 6-21-1 Removal of L-M Release Angle Unit

6-22. Slide Rod Unit Replacement and Adjustment

(Removal)

1. Remove the Top Plate Unit.
2. Remove the Front Loading Unit.
3. Remove the L-M Release Angle Unit. (Refer to item 6-21).
4. Remove the Reel Drive Sensor P.C.Board (Refer to item 6-16).
5. Remove the Cut Washer (A) and remove the Reel Drive Cam Gear.
6. Remove the Cut Washer (B) and remove the MIC Drive Arm Unit.
7. Remove the Cut Washer (C) and remove the MIC Geneva Gear.
8. Remove the Cut Washer (D) and remove the Reel Drive Arm Unit as shown in Figure 6-22-3.
9. Remove the Supply and Take Up Reel Rotor Unit (Refer to item 6-3-1).
10. Remove the 2 Cut Washers (E) and remove the Supply and Take Up Base Drive Arm Unit.
11. Remove the 2 Cut Washers (F) and remove the Slide Rod Unit.

(Installation)

1. Install the new Slide Rod Unit follow the removal steps in reverse order.
2. When install the Reel Drive Cam Gear and MIC Geneva Gear, then phase adjustment should be performed as follows.

(Adjustment)

1. Install the MIC Geneva Gear to the Chassis.
2. Place the Reels in the M-Size position by hand.
3. Install the MIC Drive Arm Unit.
4. Place the REC Inhibit SW in front position on Distinction SW Unit by rotation of MIC Geneva Gear, and then MIC Geneva Gear should be positioned as shown in Figure 6-22-2.

Note: Protrusion of MIC DRIVE Arm Unit is positioned as shown in Figure 6-22-2.

5. Install the Reel Drive Cam Gear and hole of Reel Drive Cam Gear should be matched with the hole of MIC Geneva Gear as shown in Figure 6-22-2.
6. Install the Cut Washer (A), (B) and (C) as shown in Figure 6-22-2.

※Point of Adjustment

- 1) Reel in M-Size position.
- 2) Set the REC Inhibit SW in front position of Distinction SW Unit.
- 3) Portusion of MIC Drive Arm Unit is positioned as shown in Figure 6-22-2.
- 4) Holes between Reel Drive Cam Gear and MIC Geneva Gear are matched.

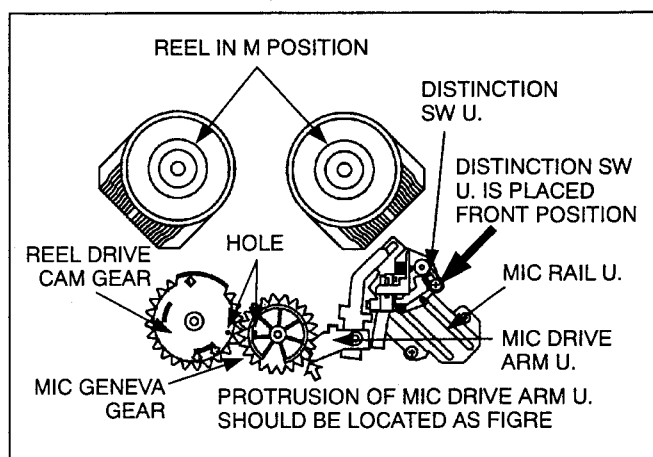


Fig. 6-22-2 Gear Phase Adjustment

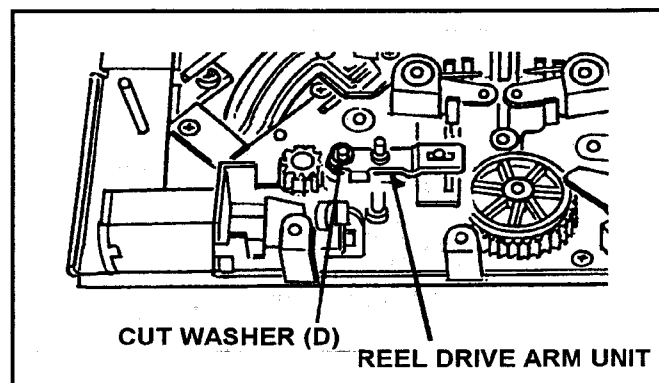


Fig. 6-22-3 Removal of Reel Drive Arm Unit

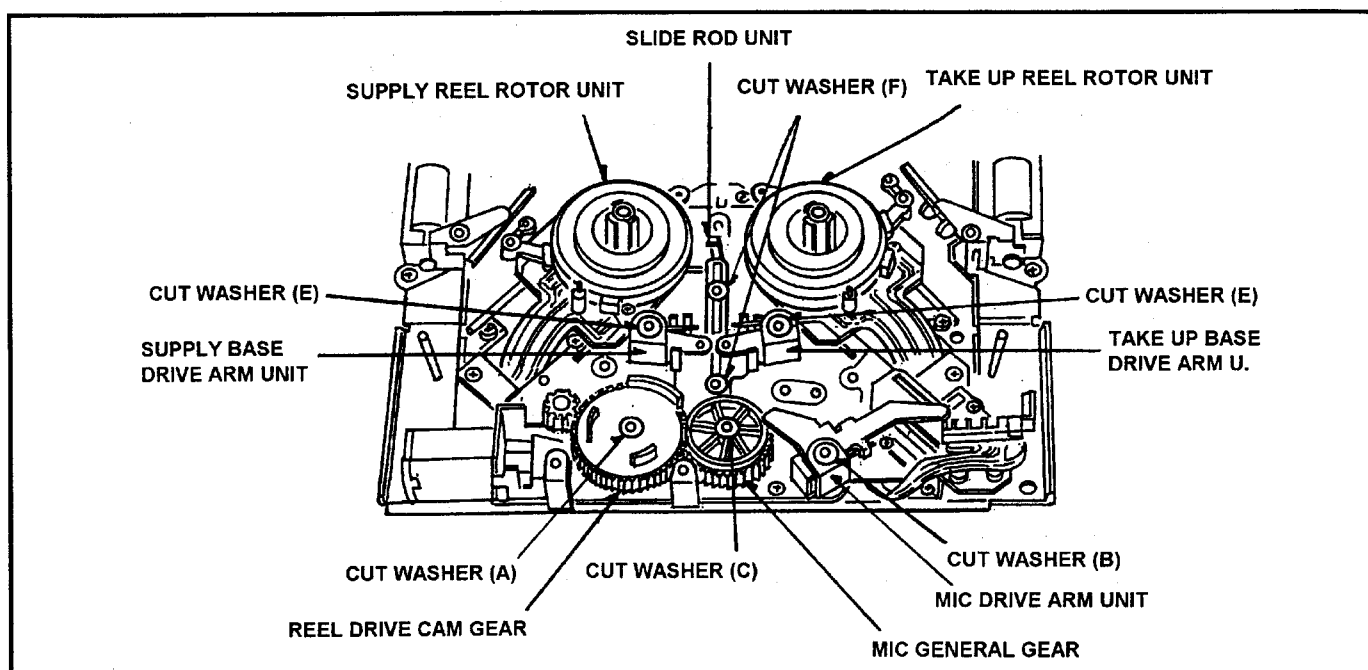


Fig. 6-22-1 Removal of Slide Red Unit

6-23. T4 Post Phase Adjustment

1. Confirm that the hole (B) of T4 connection Gear was matched to hole of T4 post as shown in figure 6-23-1.
2. Confirm that the portion (C) of T4 connection Gear and hole (A), which are located as shown in figure 6-23-1.

Note: This confirmation should be performed on unloading condition.

3. If not, adjust the phase of T4 post follow the above procedure.

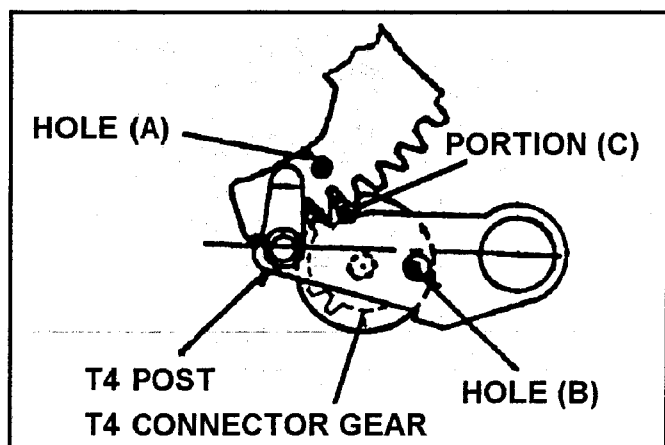


Fig. 6-23-1 Phase of T4 Post

6-24. Thrust Adjustment Screw Replacement and Adjustment

1. Remove the Thrust Adjustment Screw.
2. Enforce cleaning of point department of capstan shaft with an applicator.
3. Put the oil(VFK0906) on a new Thrust Adjustment Screw and install the upper end of the Capstan Housing.
4. Turn the Thrust Adjustment Screw slowly to counter-clockwise until the Capstan Rotor just starts turning (separate from the Capstan Rotor).
5. Turn the Thrust Adjustment Screw an another angle of 270° from 180° (about 225°) clockwise as shown in Fig. 6-24-2.
6. Put the glue (Ex:: Three Bond 1401B) on the Thrust Adjust Screw.
7. Confirm whether the Oil Seal does not come in contact with the Capstan Housing.

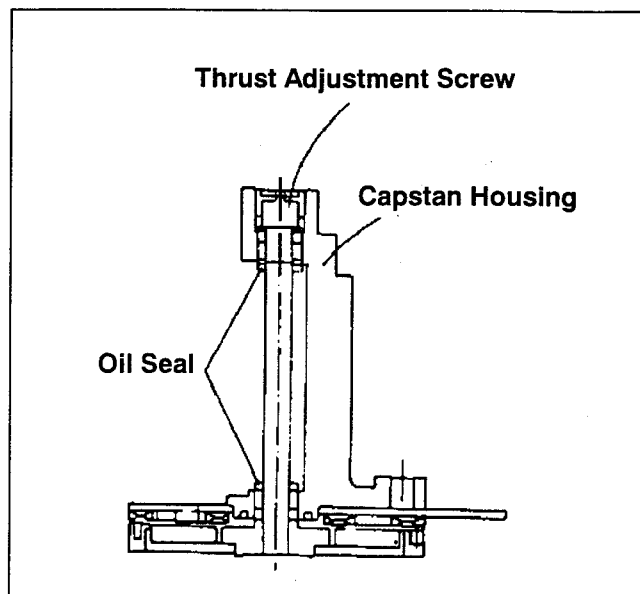


Fig.6-24-1 Removal of Trust Adjustment Screw

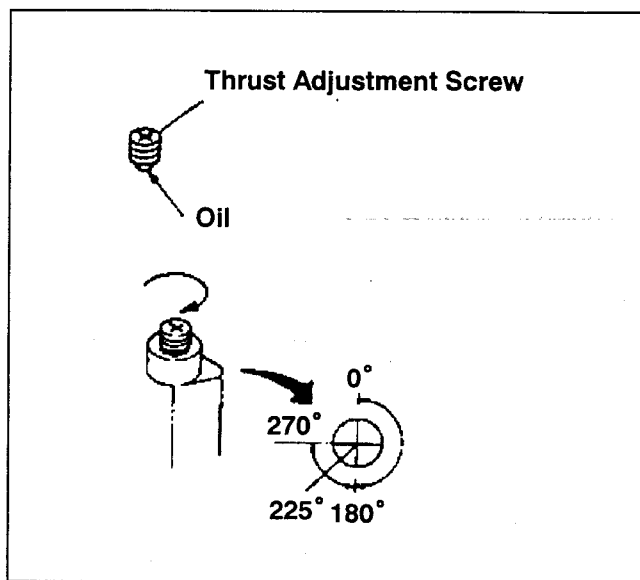


Fig.6-24-2 Adjustment of Thrust Adjustment Screw

SECTION 4

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1. POWER SECTION

1-1. DC Voltage Adjustment (DC5.6V)

Board	POWER 2
Spec.	5.75V \pm 0.02V
Test	TP1001
Adjust	VR1001
Mode	-----
M. Eq	Digital Volt Meter

1. Connect the digital voltmeter between the TP1001 and GND, and adjust the VR1001 so that the DV voltage is within the specification.

2. SERVO & AV SYSCON SECTION

2-1. Supply Reel Torque Offset Adjustment

Board	SERVO
Spec.	0 \pm 5mV
Test	TP2403, TP2404 (GND)
Adjust	A02 : S OFFSET (SERVO ADJUST)
Input signal	-----
Mode	EJECT
Tape	-----
M. Eq	Digital Volt Meter.

1. Open the "A00: SERVO ADJUST" menu on Service menu and select the item "A02: S OFFSET".
2. Press the "DATA+" or "DATA-" button so that the DC voltage is within the specification.

2-2. Take Up Reel Torque Offset Adjustment

Board	SERVO
Spec.	0 \pm 5mV
Test	TP2453, TP2404 (GND)
Adjust	A01: T OFFSET (SERVO ADJUST)
Input signal	-----
Mode	EJECT
Tape	-----
M. Eq	Digital Volt Meter

1. Open the "A00: SERVO ADJUST" menu on Service menu and select the item "A01: T OFFSET".
2. Press the "DATA+" or "DATA-" button so that the DC voltage is within the specification.

2-3. Supply Reel Motor Torque Offset Adjustment

Board	SERVO
Spec.	15 ± 2g (five times on average)
Test	-----
Adjust	A04: S TORQUE (SERVO ADJUST)
Input signal	-----
Mode	STOP
Tape	-----
M. Eq	Dial Torque Gauge

1. Open the "A00: SERVO ADJUST" menu on Service menu and select the item "A04: S TORQUE".
2. Set the Dial Torque Gauge on the supply side reel table.
3. Push the "BEGIN" to enter the loading status.
4. Measure the torque five times, and find the average value. Press the "DATA+" or "DATA-" in the status so that the torque is within the specification.

2-4. Take Up Reel Motor Torque Offset Adjustment

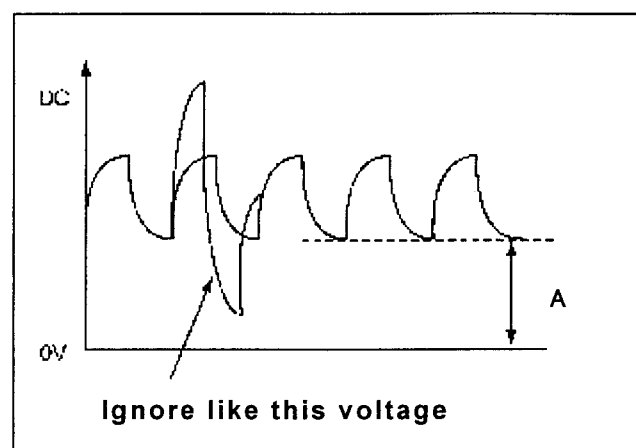
Board	SERVO
Spec.	15 ± 2g (five times on average)
Test	-----
Adjust	A03 : T TORQUE
Input signal	-----
Mode	STOP
Tape	-----
M. Eq	Dial Torque Gauge

1. Open the "A00: SERVO ADJUST" menu on Service menu and select the item "A03: T TORQUE".
2. Set the Dial Torque Gauge on the Take up side reel table.
3. Press the "BEGIN" to enter the loading status.
4. Measure the torque five times, and find the average value. Press the "DATA+" or "DATA-" in the status so that the torque is within the specification.

2-5. Photo Sensor Voltage Adjustment

Board	AV SYSCON
Spec.	A = 2.2 ± 0.6 VDC
Test	TP60002 (S PHOTO) TP60001 (T PHOTO)
Adjust	VR60002 (S-PHOTO) VR60001 (T-PHOTO)
Input signal	-----
Mode	STOP
Tape	VFK1423(Tape Big./End Det.Casstte)
M. Eq	Oscilloscope

1. Insert the Alignment tape (VFK1423) and measure the voltage at Test Point.
2. Adjust VR60001 and VR60002 so that the A portion of DC voltage is within the specification.

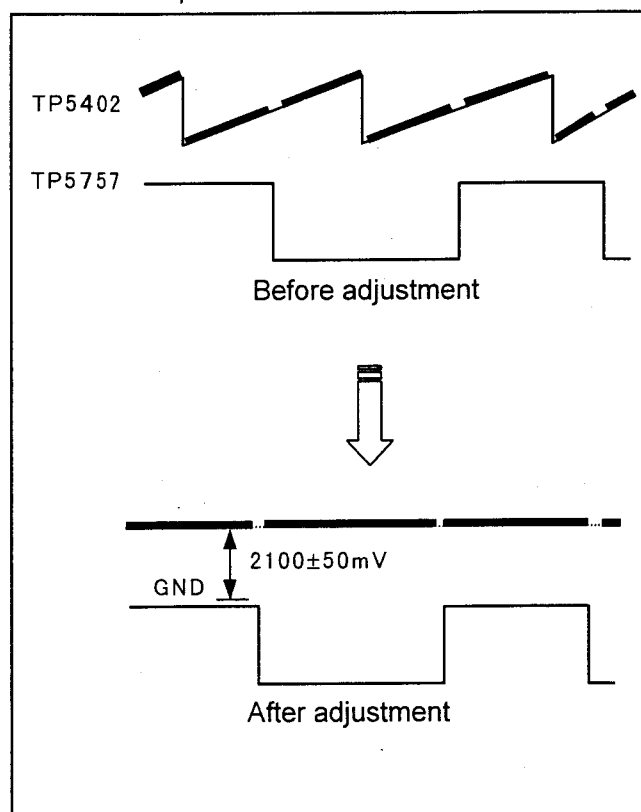


3. RF SECTION

3-1. Clock Refresh PLL Adjustment

Board	RF
Spec.	2100mV \pm 50mV
Test	TP5402(E2) CH1, TP5757(A1) CH2
Adjust	VR5402(E2)
Input signal	-----
Mode	PLAY
Tape	VFK3580KM (Color bar portion)
M. Eq	Oscilloscope

1. Connect the TP5402 to the CH1 and the TP5757 to the CH2 of the oscilloscope, respectively.
2. Adjust the VR5040 so that the value at TP5402 is within the specification.



3-2. AUTO EQ Adjustment Procedures

< Preparation >

Test	RS232C Port
M. Eq	PC(w/o AD Board), RS232C cable (straight type) VFK1472A (RF Adj. Software)
Tape	VFM3583KM(Auto EQ Alignment Tape) VFM3010EDS(DV color bar Alignment tape)
Spec.	DVCPRO PB Head: under than -4.2 DVCPRO RP Head: under than -3.2 DV Playback : under than -3.0

1. Install RF Auto Adjustment Software (VFK1472A) to your PC/AT Compatible, MS-DOS later than 6.3 and Installed Windows3.1 or Windows95).
* Make a new holder (example: c:md aeq) and copy all file from disk (VFK1472A).
2. Connect RS232C port of the VTR and Serial port of PC with 25pin - 9pin Straight Cable.
3. Confirm set-up menu setting as below. (default setting)
 - 104: TAPE IN MODE → STOP
 - 105: TAPE END MODE → STOP
 - 106: AUTO BACK → ON
 - 107: FORMAT SEL → DVCPRO
 - 108: REC INHIBIT → OFF
 - 200: BOUAD RATE → 9600
 - 201: DATA LENGTH → 8BIT
 - 202: STOP BIT → 1BIT
 - 203: PARITY → NONE
 - 204: ACK RETURN → ON
 - 111: MEMORY MODE → OFF
4. Set "Local/Menu/Remote" switch on the Front panel to "REMOTE" mode.

< Operation - How to use >

- Use Windows95
1. Select "Start" - "Program" - "MS-DOS Prompt" and open the DOS window.
 2. Type "autoeq" on command line and press <Enter>.
 3. PC displayed "Is serial No. xxxxxxx ok? ->" message, confirm serial number display is the same as VTR serial No.. If yes:press <Enter>, If no:type correct Serial No. and press <Enter>.

4. At next, PC displayed "Insert AUTO EQ Alignment Tape" message, insert VFM3583KM Alignment Tape into the VTR.
5. Then automatically start adjustment EQ adjustment and REC current adjustment. And wait until adjustment completed.
6. After finish DVCPRO EQ and REC adjustment, automatically displayed error rate for each Head. And please confirm error rate in the specification.
7. Repeat operation of item 2 and 3 as above.
8. At next, PC displayed "Insert AUTO EQ Alignment Tape" message, insert VFM3010EDS DV Alignment Tape into the VTR.
9. Then automatically start adjustment DV adjustment. And wait until adjustment completed.
10. After finish DV adjustment, automatically displayed error rate for each Head. And please confirm error rate in the specification.

Note: adjustment will take approx. 20min. (EQ Adj. → REC Adj. → DV Adj.)

● Use MS-DOS

1. Type "autoeq" on command line and press <Enter>.
2. After steps are the same as Windows95 mode.

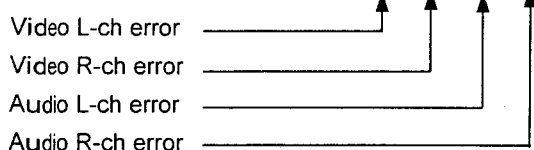
< Error Rate Display >

When completed adjustment, automatically displayed error rate for each Head as shown below.

***** Example *****

(For DVCPRO)

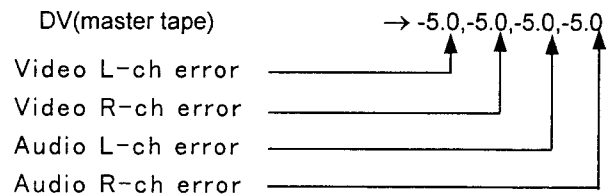
DVCPRO PB-Head(master tape) → -5.0,-5.0,-5.0,-5.0
 DVCPRO RP-Head(master tape) → -5.0,-5.0,-5.0,-5.0
 DVCPRO PB-Head(normal tape) → -5.0,-5.0,-5.0,-5.0
 DVCPRO RP-Head(normal tape) → -5.0,-5.0,-5.0,-5.0



NOTE:

(master tape): alignment tape playback error rate
 (normal tape): self-recording tape playback error rate

(For DV)



< Option Command >

The adjustment program can be changed as follows;

autoeq - <option letter>

(make space between "autoeq" and "-")

- example: Option list display → autoeq -h
 <Enter>

- p:** Playback EQ adjustment only
- r:** Recording adjustment only
- z:** Recording & DV EQ adjustments
- d:** No display for error rate and adjustment value during adjustment
- l:** No output to log file for error rate and adjustment value during adjustment
- i:** Adjustment start based on default value
- f:** Perform recording frequency adjustment
- a:** No execute DV interchange ability adjustment
- h:** Option list & version display

< Create File >

During adjustment, the following files (text file) automatically create in directory

- autoeq.log:** Error rate, adjustment value and adjustment item during adjustment
- rf_err.dat:** Error rate measurement value after completed adjustment
- adj.dat:** All RF adjustment value after completed adjustment

< Program Quit >

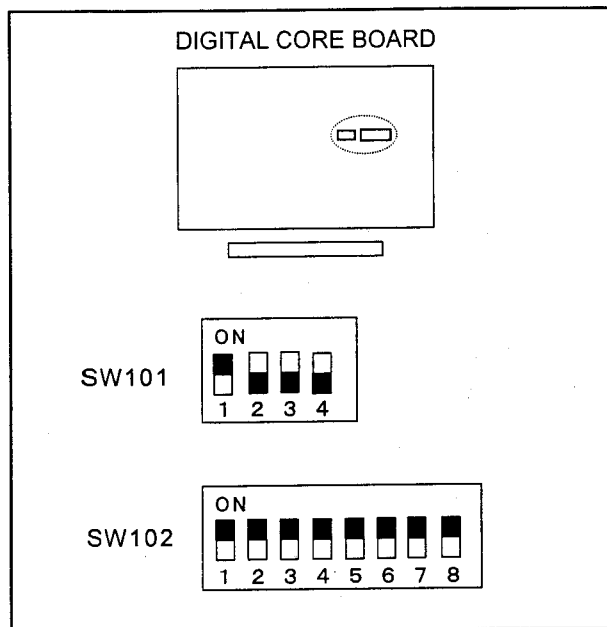
- 1-1. Emergency program quit
 - 1) Press STOT button.
 - 2) Press EJECT button.
 - 2) Try press <Ctrl> and <C> key.
 - 3) Turn off the VTR power and will be come "Time out" message on PC display.
 - 4) For Windows95, reboot the PC by <Ctrl> + <Alt> + key.

4. DIGITAL CORE SECTION

4-1. Dip Switch Initial Setting

Set the dip switches by following the steps below.

1. Set the bit1 of DIP SW101 to ON and set the bit 2 to 4 of DIP SW101 to OFF position.
2. Set the bit 1 through 8 of DIP SW102 to ON position.



4-2. Audio VCO Center Frequency 48 KHz Adjustment

Board	DIGITAL CORE
Spec.	48.00 \pm 0.01KHz
Test	TP3104(LRCLK)
Adjust	VR3101
Input signal	-----
Mode	EJECT
M. Eq	Frequency Counter

1. Open the "B00: MODE SELECT" menu of Service menu and set the item "B09:AD VCO TEST" to "48/TST" MODE.
2. Adjust the VR3101 so that the frequency is within the specification.

4.3. Audio VCO Center Frequency 44.1 KHz Adjustment

Board	DIGITAL CORE
Spec.	44.1 \pm 0.01KHz
Test	TP3104(LRCLK)
Adjust	VR3102
Input signal	-----
Mode	EJECT
M. Eq	Frequency Counter

1. Open the "B00: MODE SELECT" menu of Service menu and set the item "B09:AD VCO TEST" to "44/TST" MODE.
2. Adjust the VR3102 so that the frequency is within the specification.

4.4. Audio VCO Center Frequency 32 KHz Adjustment

Board	DIGITAL CORE
Spec.	44.1 \pm 0.01KHz
Test	TP104(LRCLK)
Adjust	VR3103
Input signal	-----
Mode	EJECT
M. Eq	Frequency Counter

1. Open the "B00: MODE SELECT" menu of Service menu and set the item "B09:AD VCO TEST" to "32/TST" MODE.
2. Adjust the VR3103 so that the frequency is within the specification.

5. TBC SECTION

Note:

1. Warm up the VTR more than 10 minutes before start the adjustment.
2. REF INPUT signal should be synchronized VIDEO INPUT signal.

5-1. PLL Lock DC Adjustment

Board	TBC
Spec.	$0 \pm 0.1V$
Test	TP3203
Adjust	VC3201
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
M. Eq	Oscilloscope

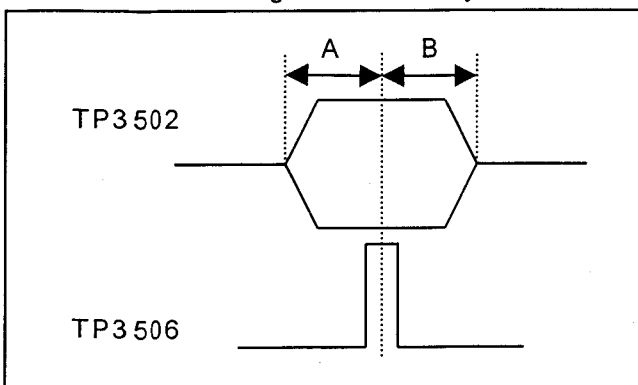
1. Connect the TP3203 to the oscilloscope.
2. Adjust the VC3201 so that the DC voltage at TP3203 is within the specification.

5.2 SG S/H Adjustment

Board	TBC
Spec.	$A = B \pm 10\%$
Test	TP3502 (RSC), TP3506 (SHP)
Adjust	VR3507 (S/H PULSE)
Input signal	REF VIDEO IN (75% Color Bar)
Mode	EE
M. Eq	Oscilloscope

1. Connect the TP3502 to the CH1 and the TP3506 to the CH2 of the oscilloscope, respectively.
2. Adjust the VR3507 so that the A and B within the specification, when the centers of the TP3506 (S/H pulse signal) and TP3502 (burst signal) are synchronized as shown in below figure.

Note: The centers of the S/H pulse signal at TP3506 and TP3502 burst signal should be synchronized.



5-3. 14.3MHz VCO Adjustment

Board	TBC
Spec.	$0 \pm 100mV$
Test	TP3507
Adjust	VC3501
Input signal	REF VIDEO IN (75% Color Bar)
Mode	EE
M. Eq	Oscilloscope

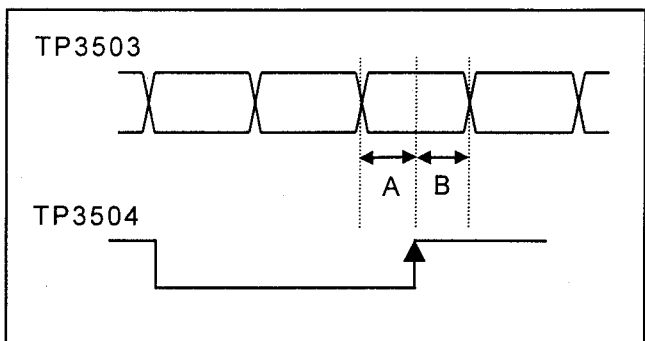
1. Connect the TP3507 to the oscilloscope.
2. Adjust the VC3501 so that the DC voltage at TP3507 is within the specification.

5-4. REF SCH Adjustment

Board	TBC
Spec.	$A = B \pm 10\%$
Test	TP3503, TP3504
Adjust	VR3501
Input signal	REF VIDEO IN (75% Color Bar)
Mode	EE
M. Eq	Oscilloscope

Note: Confirm that the SCH for both of the VIDEO Input signal and REF VIDEO signal is 0°.

1. Connect the TP3503 to the CH1 and the TP3504 to the CH2 of the oscilloscope, respectively.
2. Adjust the VR3501 so that the leading edge of the pulse signal at TP3504 is the center of the SC signal of the TP3503, then relationship of A and B should be within the specification.

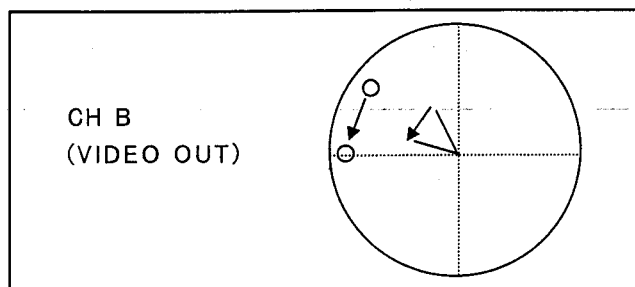


5-5. System Sub Carrier Phase Adjustment

Board	TBC
Spec.	$0 \pm 1^\circ$
Test	VIDEO OUT (CH B), REF IN (CH A)
Adjust	VR3508 (SYS SC PHASE)
Input signal	REF VIDEO IN (75% Color Bar)
Mode	EE
M. Eq	SCH meter

Note:

1. Set the waveform/vector monitor to the SCH mode, and REF to the EXT mode, respectively.
 2. Observe the CH A (REF VIDEO IN), and adjust the SCH display position.
1. Connect the SCH meter to the REF IN and VIDEO OUT.
 2. Adjust the VR3508 so that the phase of SCH synchronized between EXT REF IN signal and VIDEO OUT signal.

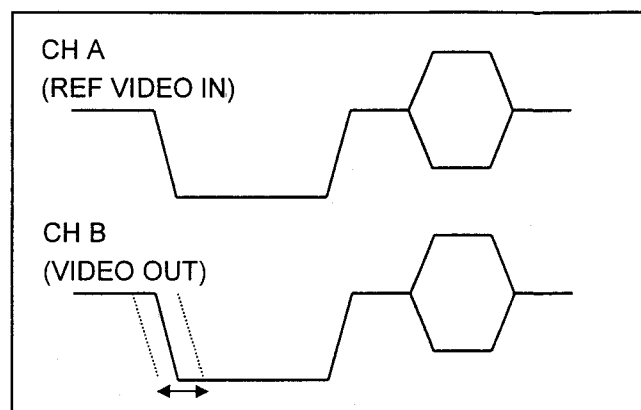


5-6. System H Phase Adjustment

Board	TBC
Spec.	See below figure.
Test	VIDEO OUT (CH B), REF IN (CH A)
Adjust	VR3504 (SYS H PHASE)
Input signal	REF VIDEO IN (75% Color Bar)
Mode	EE
M. Eq	WFM meter

1. Magnify the portion of the horizontal synchronizing signal of the VIDEO OUT signal and REF VIDEO IN signal, and adjust the VR3504 so that the phase synchronized of H sync between VIDEO OUT and REF INPUT signal as shown in figure.

Note: The measured waveform varies discretely. Shift the volume area rearward once (in the delay direction), and adjust it at the area to where it returns by reversing.

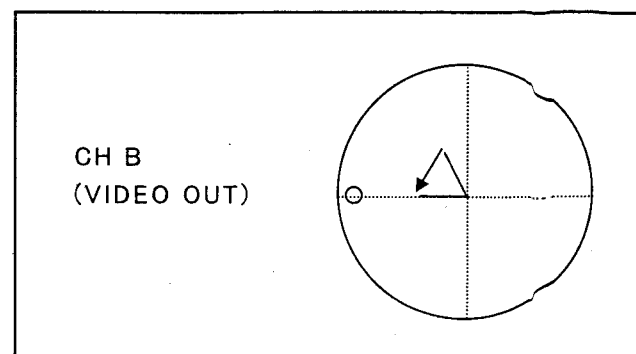


5-7. Burst Phase Adjustment

Board	TBC
Spec.	$0 \pm 1^\circ$
Test	VIDEO OUT (CH B), REF IN (CH A)
Adjust	<SYSTEM SET UP MENU> 03: SCH COARSE 04: SCH FINE
Input signal	REF VIDEO IN (75% Color Bar)
Mode	EE
M. Eq	SCH meter

Note:

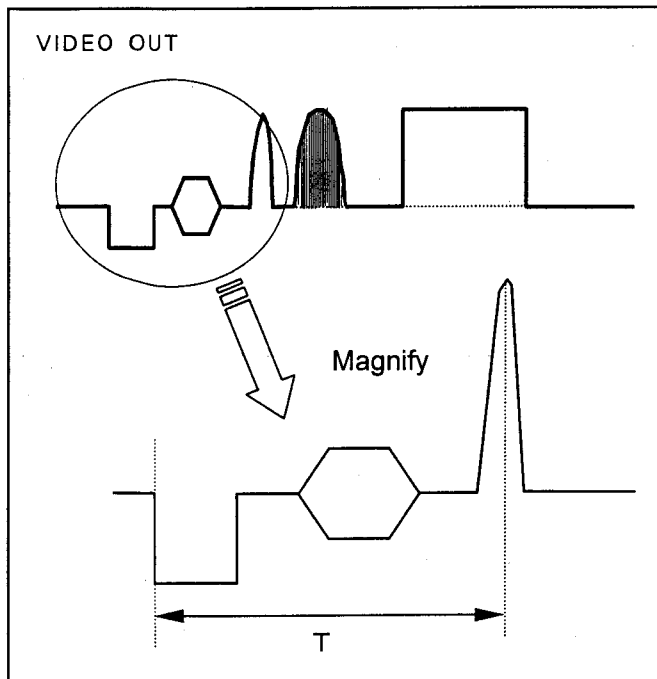
1. Set the waveform/vector monitor to the SCH mode, and REF to the EXT mode, respectively.
 2. Observe the CH A (REF VIDEO IN), and adjust the SCH display position.
1. Open the SYSTEM SET UP menu and select the item "03: SCH COARSE".
 2. Press "PAUSE (+)" or "PLAY (-)" button so that the coarse adjust the burst phase of the CH B to 0 degree.
 3. Next, select the item "04: SCH FINE", and press "PAUSE (+)" or "PLAY (-)" button so that the burst phase of the CH B is become 0 degree.



5-8. Video Position Adjustment

Board	TBC
Spec.	$T = 13.8 \pm 0.01 \mu s$
Test	VIDEO OUT
Adjust	F8:VIDEO PHASE(VIDEO ADJUST)
Input signal	REF IN (75%Color Bar)
Mode	PLAY
M. Eq	VFM3580KM (Pulse & Bar portion)
	Oscilloscope

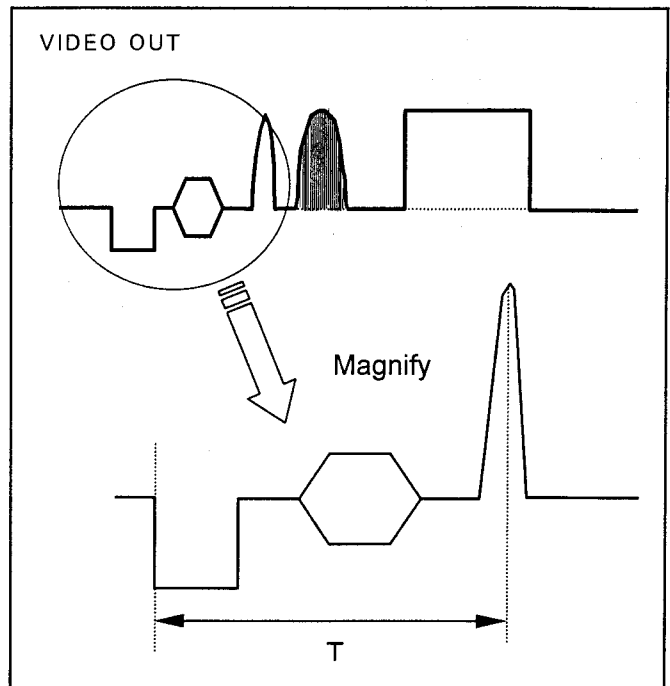
1. Open the VIDEO ADJUST menu on the service menu, and select the "F85: VIDEO PHASE".
2. Press "PAUSE (+)" or "PLAY (-)" button so that the period T (between center of sync and center of 2T pulse) is within the specification.



5-9. Y signal Timing Adjustment (1)

Board	TBC
Spec.	$T = 13.8 \pm 0.01 \mu s$
Test	VIDEO OUT
Adjust	VR3001 (SYSC 0)
Input signal	REF IN (75% Color Bar)
Mode	PLAY
Tape	VFM3580KM (Pulse & Bar portion)
M. Eq	Oscilloscope

1. Open the "B00 MODE SELECT" menu on the service menu, and set the "B10 SHUFFLE EE" to the ON position.
2. Adjust the VR3001 so that the period T (between center of sync and center of 2T pulse) is within the specification.

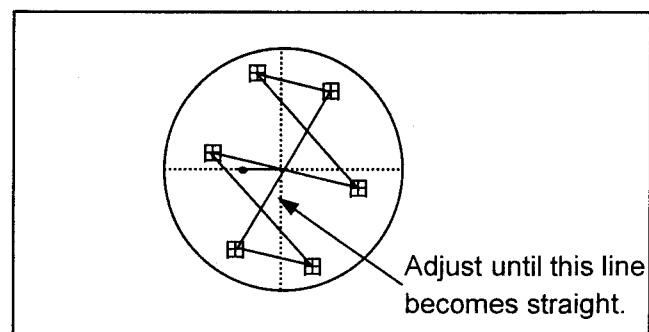


5-10. Y signal Timing Adjustment (2)

Board	TBC
Spec.	See below figure
Test	VIDEO OUT
Adjust	VR3001 (SYSC 0)
Input signal	VIDEO IN (75%Color Bar)
Mode	EE
Tape	-----
M. Eq	Vector Scope

1. Set the INPUT SELECT SW to the LINE.
2. Open the "B00 MODE SELECT" menu on the service menu, and set the "B10 SHUFFLE EE" to the ON position.
3. Adjust VR3001 so that line of between Mg and G is became straight as shown in the figure below.

Note: Adjust VR3001 near the range at adjustment point by "Y signal timing adjustment (1)". In case of quantity of adjustment at VR3001 to much, perform the Y signal timing adjustment (1) again.



6. VIDEO I/O SECTION

6-1. Initial Setting

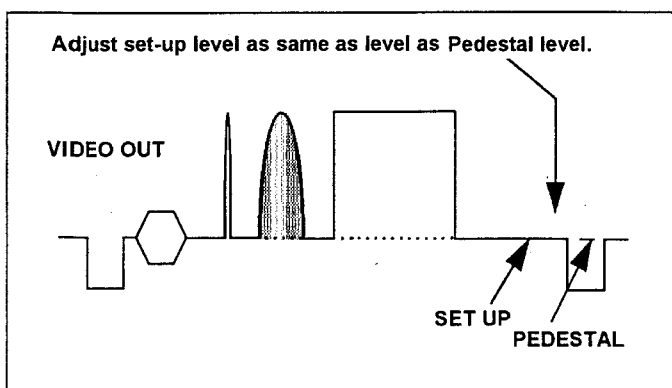
1. Be sure to set the VIDEO LEVEL, SET UP, and HUE CHROMA LEVEL on the System Set Up menu to 0 unless otherwise specified.
2. Warm up the VTR more than 10 minutes before perform adjustmen.
3. REF INPUT signal sholud be synchronized VIDEO INPUT signal.

6-2. Set Up Adjustment

Board	VIDEO I/O
Spec.	Set up level = Pedestal level ± 0.5 IRE
Test	VIDEO OUT
Adjust	VR30806
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (PULSE & Bar portion)
M. Eq	WFM Monitor

1. Adjust the VR30806 so that the set up level is equal to the pedestal level.

Note: As this signal has some carrier leak and noise etc, set the Y filter switch on WFM Monitor and magified the gain.

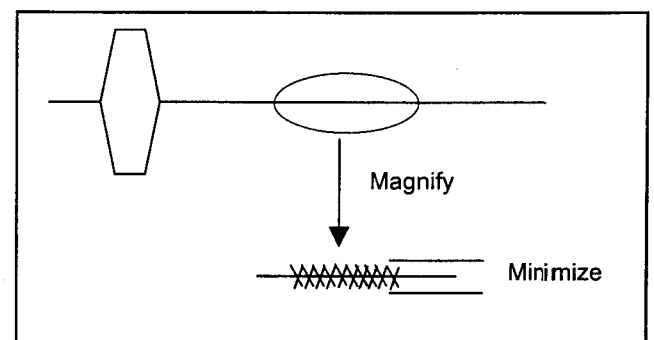


6-3. Carrier Balance Adjustment

Board	VIDEO I/O
Spec.	5 mV 以下
Test	VIDEO OUT
Adjust	VR30908 (PB BAL), VR30907 (PR BAL)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (Pulse & Bar portion)
M. Eq	WFM Monitor

1. Use the WFM monitor in the single line sweep mode. Set the chroma filter to the ON, and maximize the gain.
2. Adjust VR30907 (PR BAL) and VR30908 (PB BAL) so that the carrier leak is minimum as shown in figure.

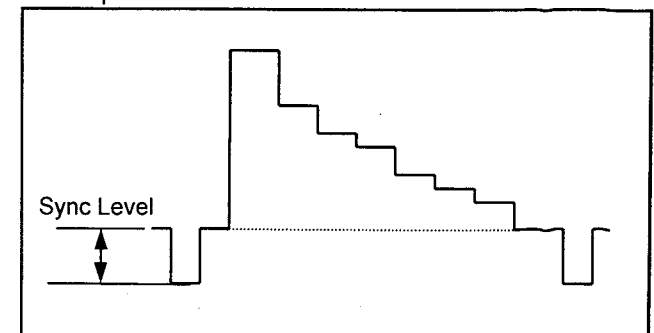
Note: Set the time axis to the MAG for the adjustment.



6-4. SYNC Level Adjustment

Board	VIDEO I/O
Spec.	40 IRE ± 1 IRE
Test	S-VIDEO (Y OUT)
Adjust	VR30805 (SYNC LEV)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (75% Color Bar portion)
M. Eq	WFM Monitor

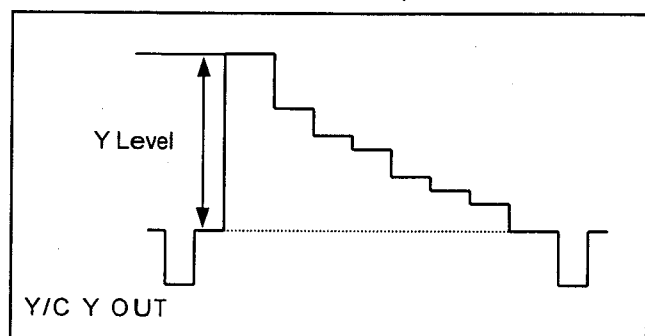
1. Adjust the VR30805 so that the sync level is within the specification.



6-5. Y/C Y Level Adjustment

Board	VIDEO I/O
Spec.	100 IRE \pm 2%
Test	S-VIDEO (Y OUT)
Adjust	VR30803 (V LEV OFST), VR30802 (VIDEO LEV FINE)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (75% Color Bar portion)
M. Eq	WFM Monitor

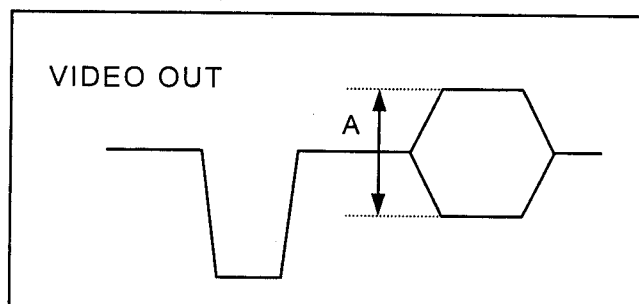
1. Adjust VR30803(coarse) and VR30802(fine) so that the Y level is within the specification.



6-7. Burst Level Adjustment

Board	VIDEO I/O
Spec.	40 IRE \pm 1 IRE
Test	VIDEO OUT
Adjust	VR30906 (BURST LEV)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (75% Color Bar portion)
M. Eq	WFM Monitor

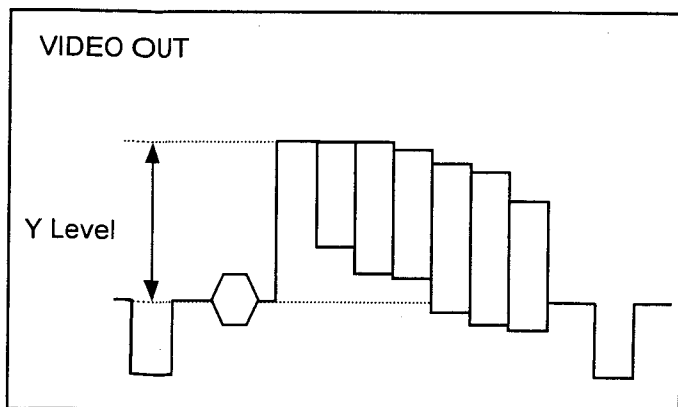
1. Connect the WFM monitor to the VIDEO OUT output.
2. Adjust the VR30906 so that the portion A (burst level) is within the specification.



6-6. Composite Y Level Adjustment

Board	VIDEO I/O
Spec.	100 IRE \pm 2%
Test	VIDEO OUT
Adjust	VR31102 (CPS LEV)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (75% Color Bar portion)
M. Eq	WFM Monitor

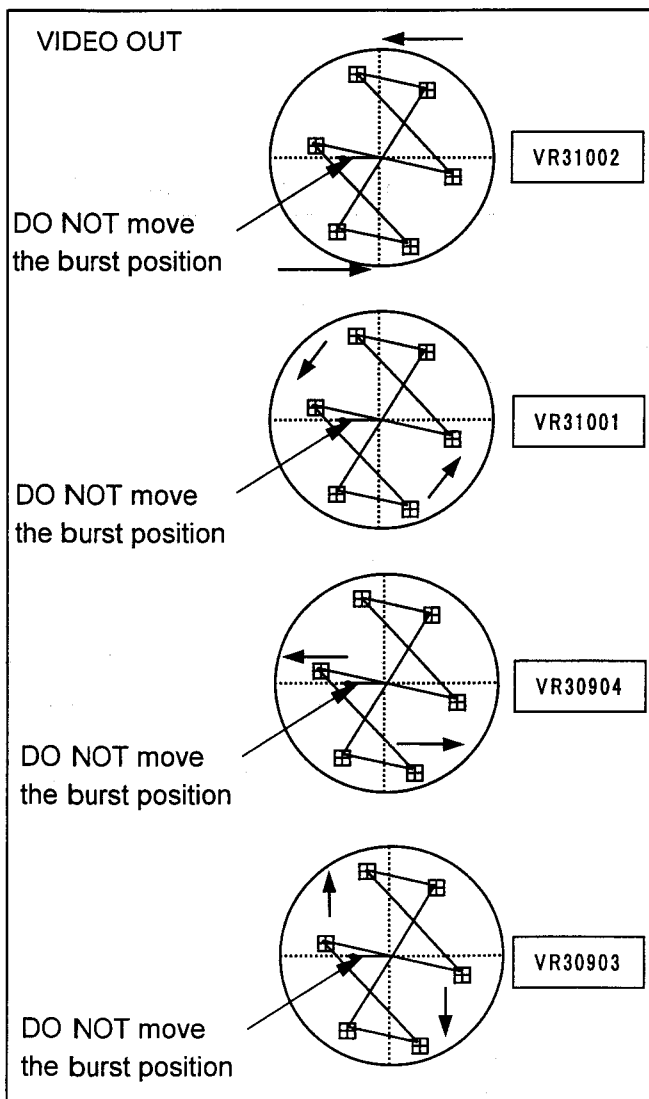
1. Adjust the VR31102 so that the Y level is within the specification.



6-8. Vector Adjustment

Board	VIDEO I/O
Spec.	All vector are in the inner boxes
Test	VIDEO OUT
Adjust	VR31002(QUAD), VR31001(HUE OFS) VR30904(ENC BY),VR30903(ENC RY)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (75% Color Bar portion)
M. Eq	Vector scope

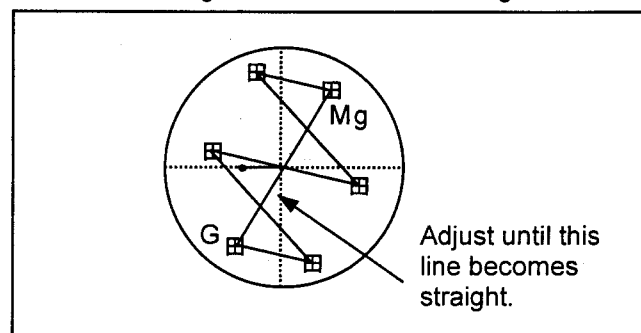
1. Connect the VIDEO OUT to the vector scope. And set the burst position by adjust phase of the vector scope.
2. Adjust the VR31002, VR31001, VR30904, and VR30903 so that each vector point in the inner boxes of the vector scope.
 VR31002: Diagonal direction
 VR31001: Rotating direction
 VR30904: Horizontal direction
 VR30903: Vertical direction



6-9. Vector Adjustment (R-Y TIMING)

Board	VIDEO I/O
Spec.	The line is become straight between Mg and G. And it vector point of Mg and G in the inner boxes.
Test	VIDEO OUT
Adjust	VR30901(RY DLY)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (75% Color Bar portion)
M. Eq	Vector scope

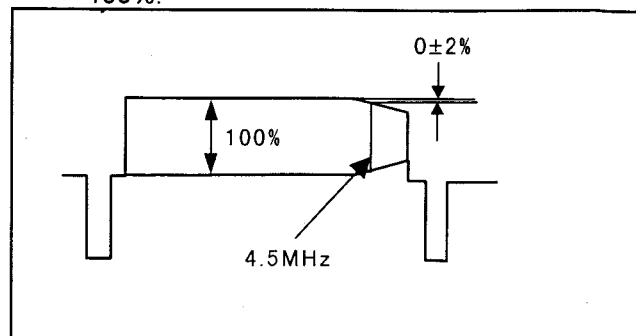
1. Connect the VIDEO OUT to the vector scope. And set the burst position by adjust phase of the vector scope.
2. Adjust VR30901 so that line of between Mg and G is became straight line as shown in the figure below.



6-10. Y f Special Adjustment

Board	VIDEO I/O
Spec.	4.5MHz = $0 \pm 2\%$
Test	VIDEO OUT
Adjust	VR30804 (CPS FREQ)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (H sweep portion)
M. Eq	WFM Monitor

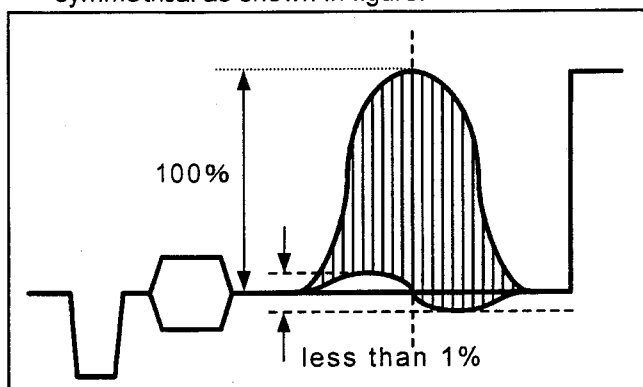
1. Observe the Y signal portion of the VIDEO OUT signal on the WFM monitor, and adjust VR30804 so that the frequency characteristic becomes flat.
 - 1) Adjust until the 4.5 MHz level is 98 to 102%.
 - 2) The level at the center of the frequency is 100%.



6-11. Composite YC Timing Adjustment

Board	VIDEO I/O
Spec.	$0 \pm 10\text{ns}$
Test	VIDEO OUT
Adjust	VR30910 (C DLY)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (Pulse & Bar portion)
M. Eq	WFM Monitor

1. Connect the WFM monitor to the VIDEO OUT.
2. Adjust the VR30910 so that the hatching portion is symmetrical as shown in figure.



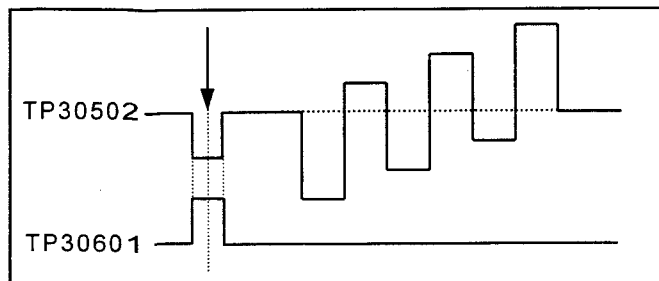
< Note >

1. After the adjustment is complete, perform the "6-7. Burst Level Adjustment" and "6-8. Vector Adjustment".
2. Set the item "08:CHROMA LEVEL" on the System Set Up menu to 0 after the adjustment is complete.

6-12. RSTW Adjustment

Board	VIDEO I/O
Spec.	$0 \pm 100\text{nsec}$
Test	TP30601(BGP), TP30502(AD PB)
Adjust	VR30601(RSTW)
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	Oscilloscope

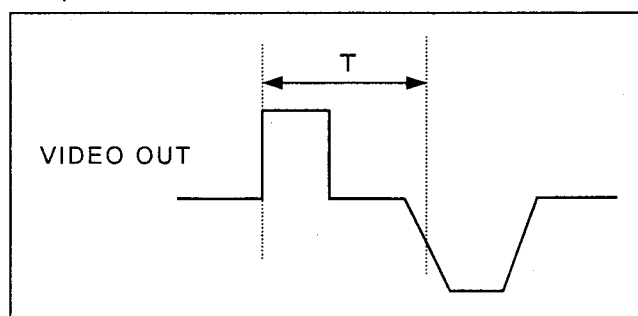
1. Adjust the VR30601 so that the burst portion of TP30601 is synchronized to center of PB blanking pulse at TP30502 as shown in figure.



6-13. OSD Character Position Adjustment

Board	VIDEO I/O
Spec.	$T = 6.0 \pm 0.2 \mu\text{sec}$
Test	VIDEO MONITOR OUT
Adjust	VC31101(CHAR)
Input signal	VIDEO IN (50% flat field)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

1. Open the Basic Set Up menu and set the item "004: CHARA TYPE" to "WHITE".
2. Adjust the VC31101 so that the period T is within the specification.

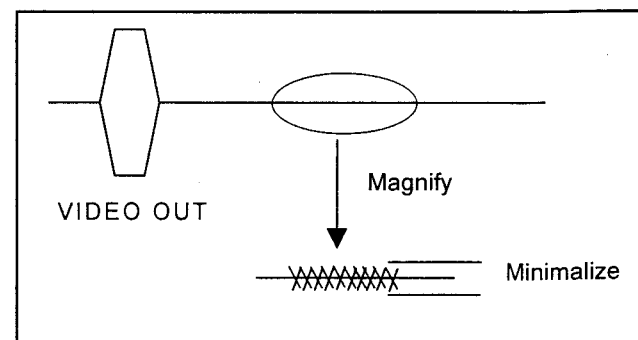


6-14. PR/PB Signal Balance Adjustment

Board	VIDEO I/O
Spec.	Less than 8 mV
Test	VIDEO OUT
Adjust	VR30507 (PR CLAMP DC), VR30508 (PB CLAMP DC)
Input signal	VIDEO IN (50% flat field)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

1. Use the WFM monitor in the single line sweep mode. Set the chroma filter to the ON, and maximize the gain.
2. Adjust VR30507 (PR CLAMP DC) and VR30508 (PB BAL) so that the carrier leak is minimum as shown in figure.

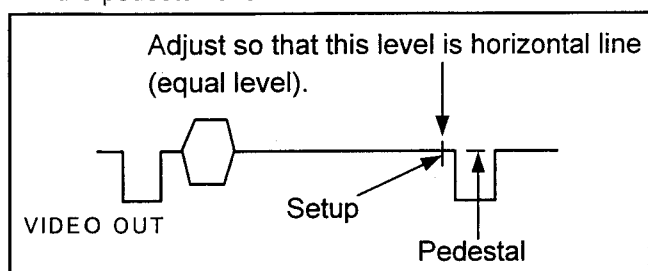
Note: Set the time axis to the MAG for the adjustment.



6-15. AD Y Clamp Level Adjustment

Board	VIDEO I/O
Spec.	Set up level = Pedestal level ± 0.5 IRE
Test	VIDEO OUT
Adjust	VR30509 (Y CLAMP DEC)
Input signal	VIDEO IN (0% flat field)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

1. Open the "B00: MODE SELECT" menu on Service menu and set the item "B10: SHUFFLE EE" to ON.
2. Adjust the VR30509 so that the set up level is equal to the pedestal level.

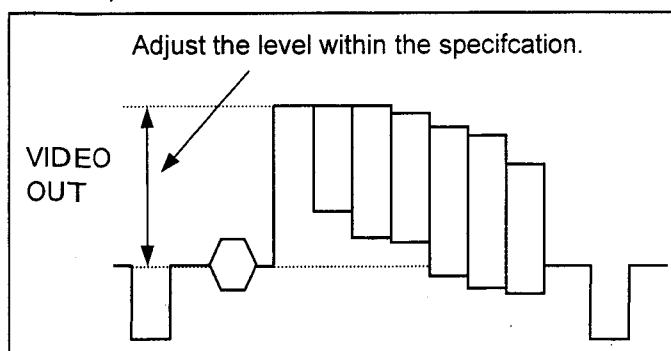


Note: As this signal has some carrier leak and noise etc, set the Y filter switch on WFM Monitor and magified the gain

6-16. AD Y Input Level Adjustment (Y/C)

Board	VIDEO I/O
Spec.	100 \pm 1 IRE
Test	VIDEO OUT
Adjust	VR30506 (AD Y)
Input signal	S-VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

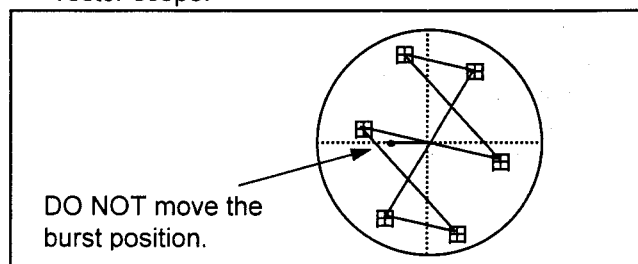
1. Open the "B00: MODE SELECT" menu on Service menu and set the item "B10: SHUFFLE EE" to ON.
2. Adjust the VR30506 so that the Y level is within the specification.



6-17. Record Chroma Adjustment (Y/C)

Board	VIDEO I/O
Spec.	All vector are in the inner boxes
Test	VIDEO OUT
Adjust	VR30603 (AXIS), VR30505 (AD PB), VR30504 (AD PR)
Input signal	S-VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	Vector scope

1. Open the "B00: MODE SELECT" menu on Service menu and set the item "B10: SHUFFLE EE" to ON.
2. Adjust the VR30603, VR30505, and VR30504 so that each point of vector in the inner boxes of vector scope.

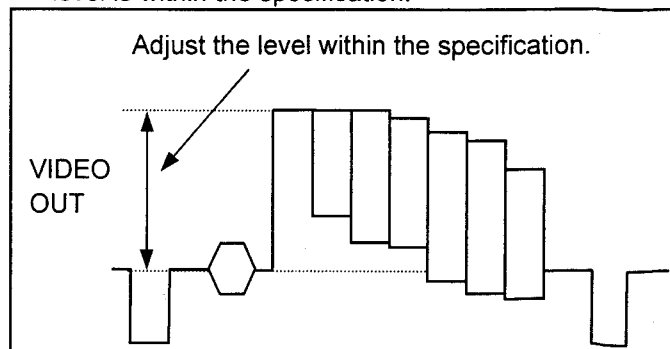


Note: The adjustment of playback process should be completed.

6-18. AD Y Input Level Adjustment (CPS)

Board	VIDEO I/O
Spec.	100 \pm 1 IRE
Test	VIDEO OUT
Adjust	F03: CPS Y LEV(VIDEO ADJUST)
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

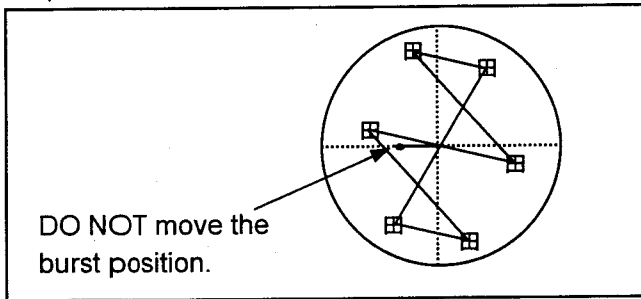
1. Open the "B00: MODE SELECT" menu on the service menu, and set the item "B10: SHUFFLE EE" to the ON.
2. Next, select the open the "F00: VIDEO ADJUST", and select the item "F03: CPS Y LEV".
3. Press "PAUSE (+)" or "PLAY (-)" button so that the Y level is within the specification.



6-19. Record Chroma Adjustment (CPS)

Board	VIDEO I/O
Spec.	All vector are in the inner boxes
Test	VIDEO OUT
Adjust	F02: CPS AXIS OFS(VIDEO ADJUST) F04: C LEV(VIDEO ADJUST)
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	Vector scope

1. Open the "B00: MODE SELECT" menu on the Service menu, and set the item "B10: SHUFFLE EE" to the ON.
2. Next, open the "F00: VIDEO ADJUST" menu and select the item "F02: CPS AXIS OFS".
3. Press "PAUSE (+)" or "PLAY (-)" button so that all vector points in inner boxes of vector scope.
4. Next, select the item "F04: C LEV". And press "PAUSE (+)" or "PLAY (-)" button so that all vector points in inner boxes of vector scope.

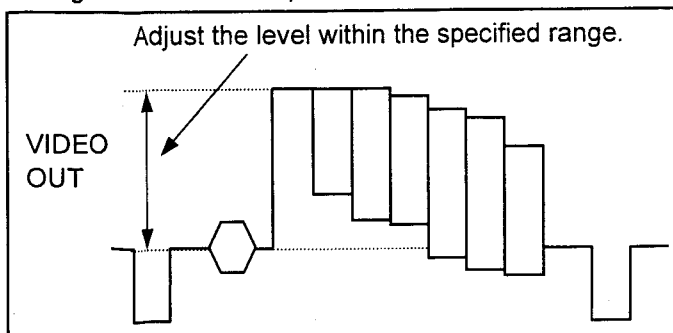


Note: The adjustment of playback process should be completed.

6-20. EE Y Level Adjustment

Board	VIDEO I/O
Spec.	100 \pm 1 IRE
Test	VIDEO OUT
Adjust	VR30801 (EE Y LEV)
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

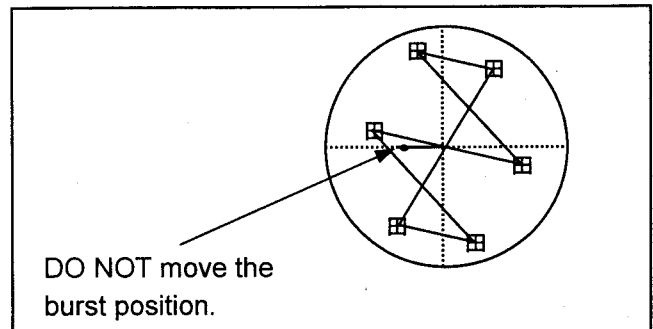
1. Connect the WFM monitor to the VIDEO OUT.
2. Adjust the VR30801 so that the Y level of the video signal is within the specification.



6-21. EE Chroma Adjustment

Board	VIDEO I/O
Spec.	All vector are in the inner boxes
Test	VIDEO OUT
Adjust	VR31101 (EE C LEV)
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	Vector scope

1. Connect the vector scope to the VIDEO OUT.
2. Adjust the VR31101 so that the all vectors point are in the inner boxes.

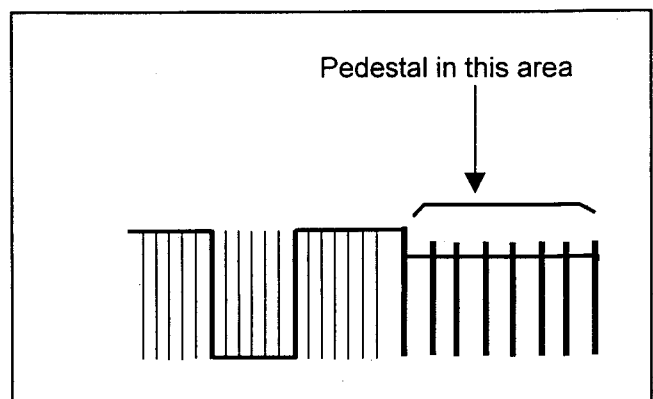


Note: The adjustment of playback process should be completed.

6-22. VV Clamp Potential Adjustment

Board	VIDEO I/O
Spec.	0 \pm 0.5 IRE
Test	VIDEO OUT
Adjust	F18: VV CLAMP DC (VIDEO ADJUST)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM (75% Color Bar portion)
M. Eq	WFM Monitor

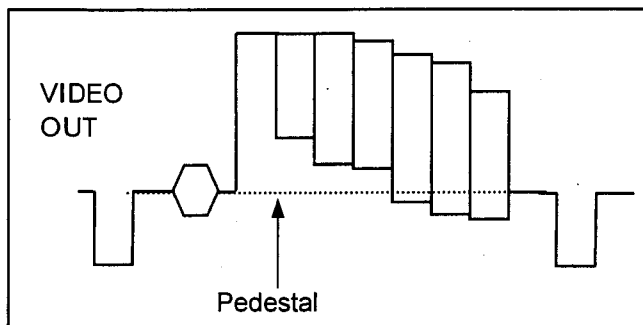
1. Open the "F00: VIDEO ADJUST" menu on Service menu and select the item "F18: VV CLAMP DC".
2. Press "PAUSE (+)" or "PLAY (-)" button so that the pedestal level of 11H line (it located after V SYNC and equlizing pluse) is the sams as pedestal level as other line.



6-23. EE Clamp Potential Adjustment

Board	VIDEO I/O
Spec.	0 ± 0.5 IRE
Test	VIDEO OUT
Adjust	F17:EE CLAMP DC(VIDEO ADJUST)
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

1. Open "F00: VIDEO ADJUST" menu on Service menu and select the itemn "F17: EE CLAMP DC".
2. Press "PAUSE (+)" or "PLAY (-)" button so that the same pedestal level, when the VIDEO IN cable is disconnected and VIDEO IN cable is connected.



6-24. SCH Detection Adjustment

Board	VIDEO I/O
Spec.	See below figure
Test	TP30607
Adjust	VR30602 (SCH), VR30604 (SCH P)
Input signal	VIDEO IN (SCH ± 70°)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

1. Set the SCH is -70° of SCH signal generator.
2. Slowly turn the VR30602 counterclockwise until the TP30607 is changed from "H" to "L".
3. Set the SCH is +70° of SCH signal generator.
4. Slowly turn the VR30604 counterclockwise until the TP30607 is changed from "H" to "L".

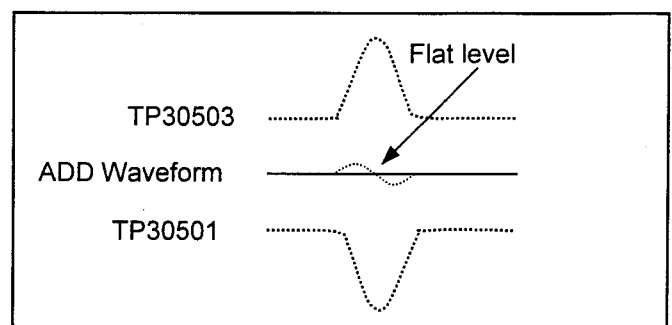
Note:

1. When turning the VR counterclockwise, be sure to turn it slowly.
2. Be sure to perform the adjustment in the direction that the TP30607 is changed from the "H" to the "L".

6-25. AD Y PR Timing Adjustment

Board	VIDEO I/O
Spec.	See below
Test	TP30501 (AD PR) TP30503 (AD Y)
Adjust	VR30402 (PR TMG1)
Input signal	Modulation 12.5T Pulse & Bar
Mode	EE
Tape	-----
M. Eq	Oscilloscope

1. Set the oscilloscope to the CH2 INVERT mode (TP30501), and the CH1/CH2 ADD mode.

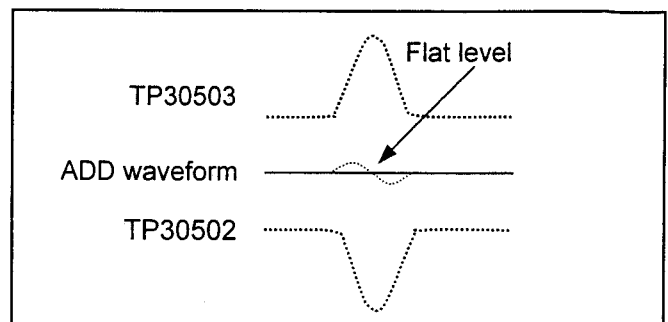


2. Adjust the VR30402 until the ADD signal becomes flat.

6-26. AD Y PB Timing Adjustment

Board	VIDEO I/O
Spec.	See below
Test	TP30502 (AD PB) TP30503 (AD Y)
Adjust	VR30401 (PB TMG1)
Input signal	Modulation 12.5T Pulse & Bar
Mode	EE
Tape	-----
M. Eq	Oscilloscope

1. Set the oscilloscope to the CH2 INVERT mode (TP30502), and the CH1/CH2 ADD mode.

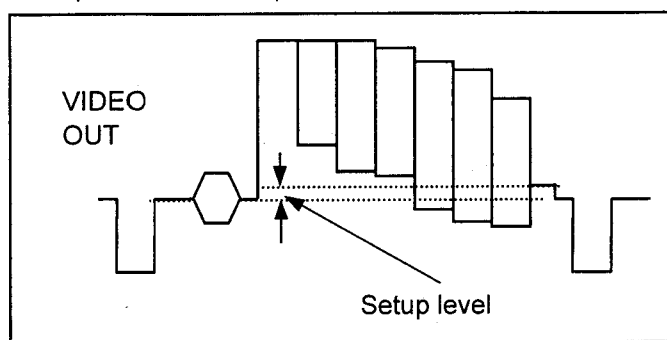


2. Adjust the VR30401 until the ADD signal becomes flat.

6-27. Set Up Level Adjustment (1)

Board	VIDEO I/O
Spec.	SETUP LEVEL = 7.5 ± 0.5 IRE
Test	VIDEO OUT
Adjust	F14:SET UP ADD (VIDEO ADJUST)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM(75% Color Bar portion)
M. Eq	WFM Monitor

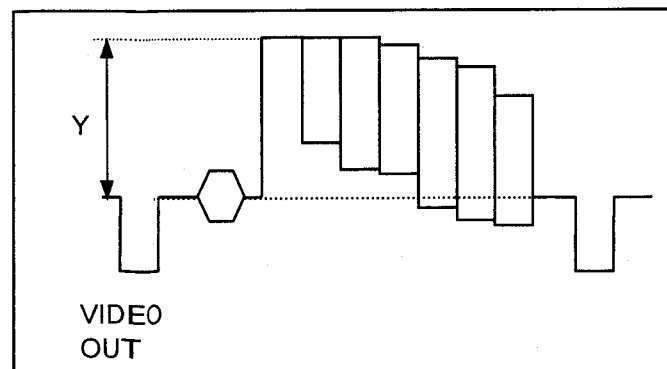
1. Open the "F00: VIDEO ADJUST" menu on Service menu and select the item "F14: SET UP ADD".
2. Press "PAUSE(+)" or "PLAY (-)" button so that the set up level is within specification.



6-28. Set Up Level Adjustment (2)

Board	VIDEO I/O
Spec.	Y = 100 ± 1 IRE
Test	VIDEO OUT
Adjust	F15:V LEV ADD(VIDEO ADJUST)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM(75% Color Bar portion)
M. Eq	WFM Monitor

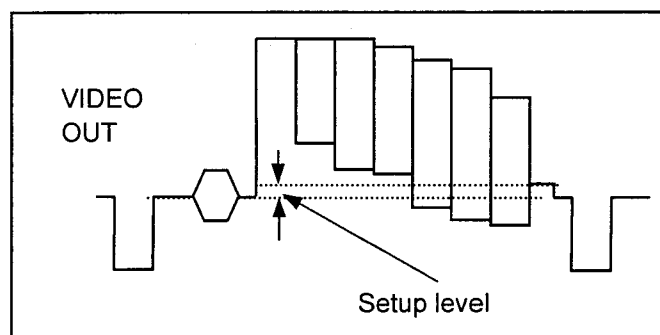
1. Open the "F00: VIDEO ADJUST" menu on Service menu and select the item "F15: V LEV ADD".
2. Press "PAUSE(+)" or "PLAY (-)" so that the video level is within the specification.



6-29. Record Set Up Cut Adjustment (1)

Board	VIDEO I/O
Spec.	SETUP LEVEL = 7.5 ± 0.5 IRE
Test	VIDEO OUT
Adjust	F16:Y CLAMP OUT(VIDEO ADJUST)
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

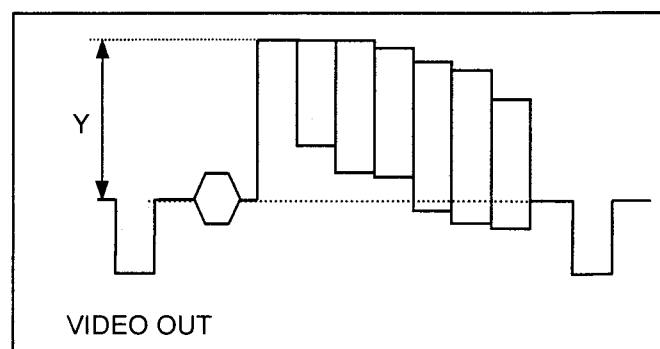
1. Open the "B00: MODE SELECT" menu on the Service menu, and set the item "B10: SHUFFLE EE" to ON.
2. Open the "F00: VIDEO ADJUST" menu and select the item "F16: Y CLAMP CUT".
3. Press "PAUSE(+)" or "PLAY (-)" button so that the set up level is within specification.



6-30. Record Set Up Cut Adjustment (2)

Board	VIDEO I/O
Spec.	Y = 100 ± 1 IRE
Test	VIDEO OUT
Adjust	VR30501
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	WFM Monitor

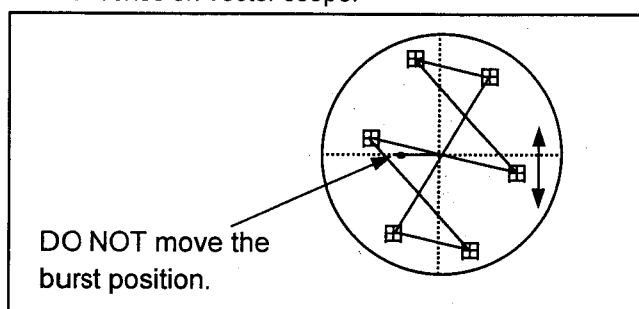
1. Open the "B00: MODE SELECT" menu on the service menu, and set the item "B10: SHUFFLE EE" to ON.
2. Adjust VR30501 so that the video level is within the specification.



6-31. Record Set Up Cut Adjustment (3)

Board	VIDEO I/O
Spec.	All vector are in the inner boxes
Test	VIDEO OUT
Adjust	VR30502
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	Vector scope

1. Open the "B00: MODE SELECT" menu on the service menu, and set the item "B10: SHUFFLE EE" to the ON.
2. Adjust the VR30502 so that the all vectors point are in inner boxes on vector scope.

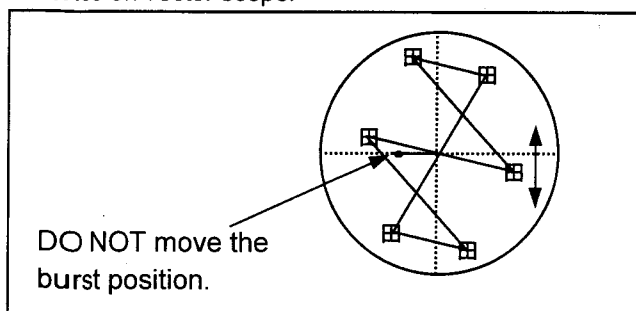


Note: The adjustment of playback process should be completed.

6-32. Record Set Up Cut Adjustment (4)

Board	VIDEO I/F
Spec.	All vector are in the inner boxes
Test	VIDEO OUT
Adjust	VR30503
Input signal	VIDEO IN (75% Color Bar)
Mode	EE
Tape	-----
M. Eq	Vector scope

1. Open the "B00: MODE SELECT" menu on the service menu, and set the item "B10: SHUFFLE EE" to ON.
2. Adjust VR30503 so that the all vectors point in inner boxes on vector scope.



Note: The adjustment of playback process should be completed.

7. AUDIO SECTION

7-1. Initial Setting of Audio Adjustment

1. Set the item "102: S/F/R " on SET UP MENU TO "EE".
2. Please warm up the VTR about 10 minute before adjustment.
3. Set the REC VR to center position and set the CONTROL SW to LOCAL position on the Front Panel.
4. In case of use Audio Precision, please set switch of impedance as indicated as below.
 - OSC Output Impedance: " Less than 25Ω (Low)"
 - Input Impedance : "more than 100KΩ (High)".

7-2. Output Level Adjustment

Board	AUDIO
Spec.	-8 dBV± 0.2 dB
Test	LINE OUT 1,2 (CH 1,CH 2)
Adjust	VR40201 (CH 1), VR40202 (CH 2)
Input signal	-----
Mode	PLAY
Tape	VFM3580KM
M.Eq	VTVM (Audio Precision)

1. Adjust VR40201(CH1) and VR40202(CH2) so that the output level (LINE OUT 1) is become in the specification.
2. Confirm that the output level of LINE OUT 2 in the specisication.

7-3. Input Level Adjustment

Board	AUDIO
Spec.	-22.6 dBV± 0.2 dBV
Test	TP40004 (CH 1) TP40005 (CH 2)
Adjust	VR40003 (CH 1), VR40004 (CH 2)
Input Signal	LINE IN (1KHz, -8dB: Sinewave)
Mode	EJECT
Tape	-----
M.Eq	VTVM (Audio Precision)

1. Adjust VR40003(CH1) and VR40005(CH2) so that the level of Test Point is becomes in the specification.

NOTE: Set the REC VR to center(click) positio n.

7-4. EE Level Adjustment

Board	AUDIO
Spec.	-8 dBV \pm 0.2 dB
Test	LINE OUT (CH 1,2)
Adjust	VR40301 (CH 1), VR40302 (CH 2)
Input Signal	LINE IN (1KHz, -8dB sinewave)
Mode	EJECT
Tape	-----
M.Eq	VTVM (Audio Precision)

1. Adjust VR40301(CH1) and VR40302(CH2) so that the Output level is becomes in the specification.

NOTE: Please perform this adjustment after " 7-2.Output Level Adj." and " 7-3.Input Level Adj.

7-5. Level Meter Adjustment

Board	AUDIO
Spec.	AUDIO METER DISPLAY: -20dB
Test	-----
Adjust	VR40303 (CH 1), VR40304 (CH 2)
Input Signal	LINE IN (1KHz, -8dB sinewave)
Mode	EE
Tape	-----
M.Eq	-----

1. Adjust VR40303 and VR40304 so that the Audio Level Meter displayed -20dB position.

7-6. Initial Setting of CUE AUDIO Adj.

1. Set the bit 2 of Dip SW 902 on the AV SYSCON P.C.Board to ON position.
2. Set the "LOCAL/MENU/REMOTE" switch on the Front panel to "MENU" position for open the Service Menu.
3. Keep Pressing "END" button, press "AUDIO SELECT" button, then CH1 and CH2 indicator put out light on Audio Level Meter for CUE Audio signal output from LINE OUT terminal.

NOTE: In case of CH1 and CH2 indicator displayed, when release the END button, press END button again, then if CH1 and CH2 indicator become put out light condition, it no problem..

4. For operate VTR, keep pressing END button, press operation button (PLAY,FF etc).
5. After finish CUE AUDIO adjustment, please escape from Service menu mode.

7-7. CUE AUDIO PB LEVEL Adj.

Board	AUDIO
Spec.	-8 dBV \pm 0.5 dB
Test	LINE OUT (CH1.CH2)
Adjust	VR40701
Input Signal	-----
Mode	PLAY
Tape	VFM3580KM (0 to 14 min)
M.Eq	VTVM (Audio Precision)

1. Adjust VR40701 so that the LINE OUT output level is become in the specification.

7-8. CUE AUDIO BIAS CURRENT Adj.

Board	AUDIO
Spec.	6.5 mVrms \pm 0.2 mV
Test	TP40601 (HOT) TP40602 (COLD)
Adjust	VR40601
Input Signal	-----
Mode	REC
Tape	-----
M.Eq	VTVM

1. Connect the VTVM between TP40601 (HOT) and TP40602 (COLD).
2. Adjust VR40601 so that the level at test point in the specification.

7-9. CUE REC/PB Level Adjustment

Board	AUDIO
Spec.	-8 dBV \pm 1.0 dB
Test	LINE OUT (CH1,2) TP40603
Adjust	VR40602
Input Signal	LINE IN (-8 dB, 1KHz sinewave)
Mode	REC / PLAY
Tape	Blank Tape
M.Eq	VTVM (Audio Precision)

1. Supply a 1KHz, -8dB signal into the LINE Input and record the input signal for a few minutes.
2. Playback the just recorded portion.
3. Measure the level at LINE OUT and confirm that level difference to -8 dB.
4. Place unit into REC mode for a few minutes and playback the just recorded portion.
5. Adjust VR40602 so that the LINE OUT level is in the specification.

NOTE: In case of use Audio Precision, set indicated as below.

- * AMPLITUDE
- * BANDWIDTH : 22Hz, 22KHz
- * FILTER: OFF

SECTION 5

BLOCK DIAGRAMS

CONTENTS

OVERALL BLOCK DIAGRAM.....	BLK-1
FRONT BLOCK DIAGRAM	BLK-2
RF BLOCK DIAGRAM.....	BLK-3
SERVO BLOCK DIAGRAM.....	BLK-4
AUDIO BLOCK DIAGRAM.....	BLK-5
DIGITAL CORE BLOCK DIAGRAM.....	BLK-6
VIDEO I/O BLOCK DIAGRAM.....	BLK-8
AV SYSCON BLOCK DIAGRAM.....	BLK-9
TBC BLOCK DIAGRAM.....	BLK-10

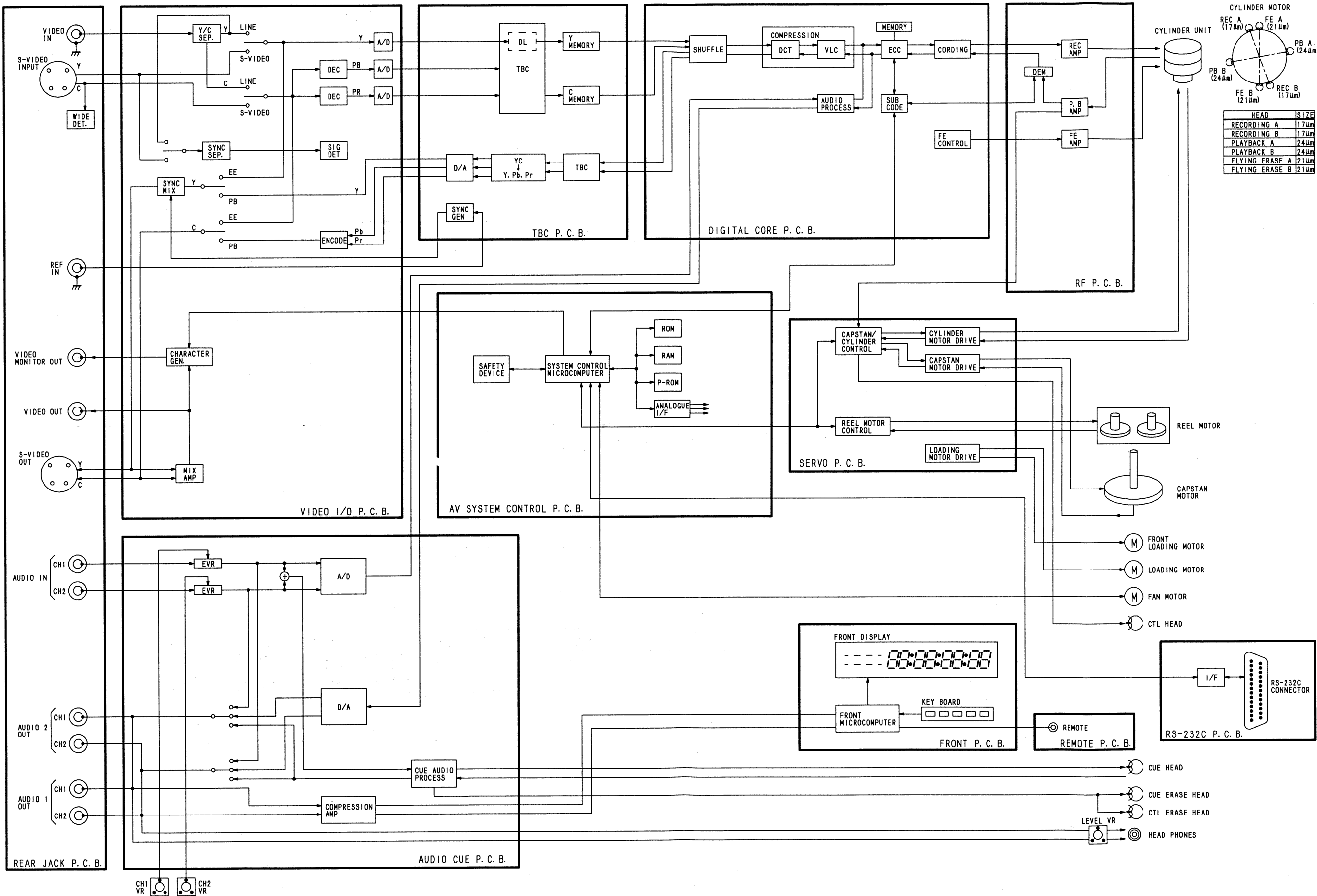
SECTION 1

BLOCK DIAGRAMS

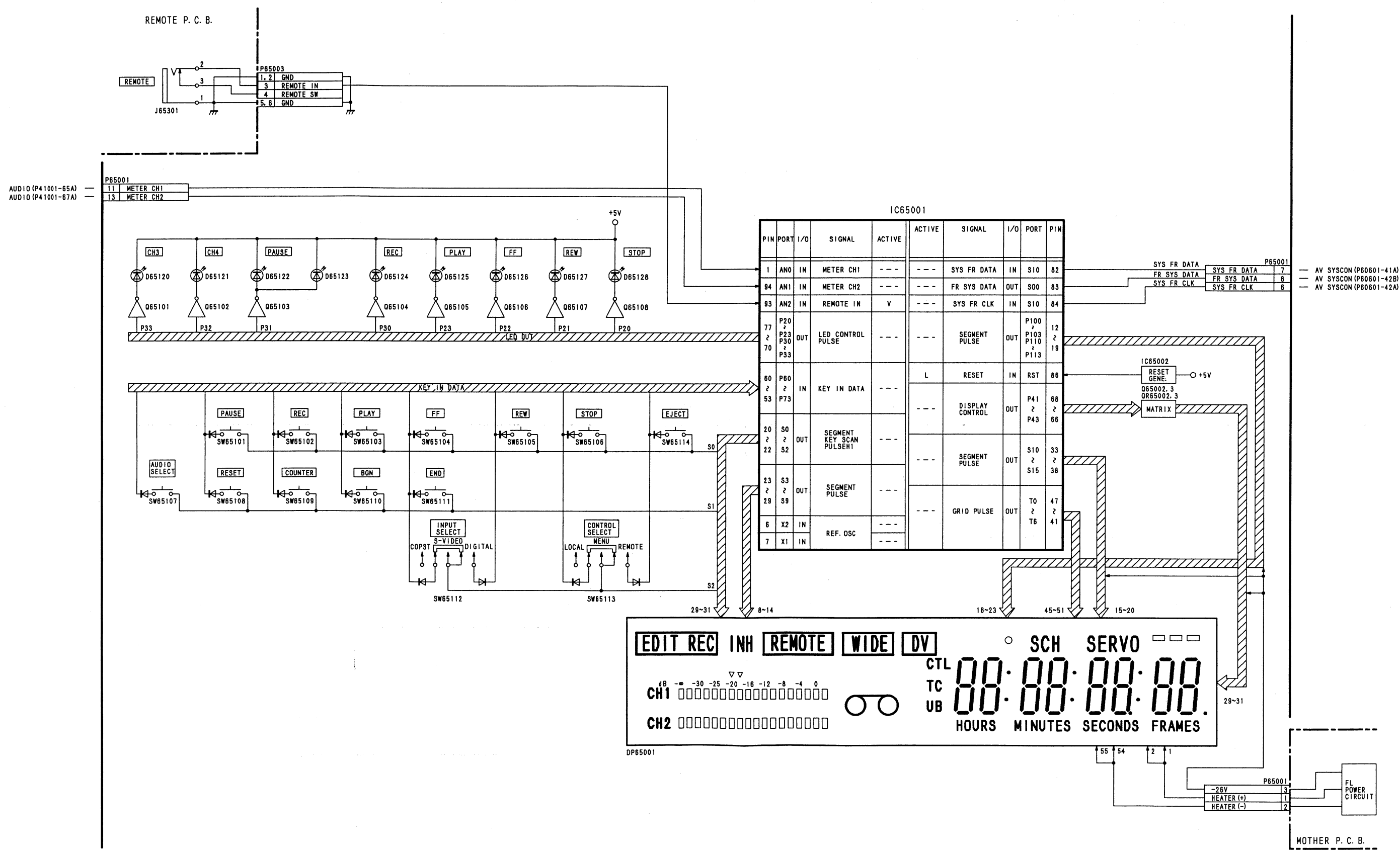
CONTENTS

1-1	GENERAL BLOCK DIAGRAM
1-2	INPUT BLOCK DIAGRAM
1-3	PROCESS BLOCK DIAGRAM
1-4	OUTPUT BLOCK DIAGRAM
1-5	ADDITIONAL BLOCK DIAGRAMS
1-6	OPTIONAL TYPE BLOCK DIAGRAM
1-7	APPENDIX BLOCK DIAGRAM
1-8	TO BE USED BY USER

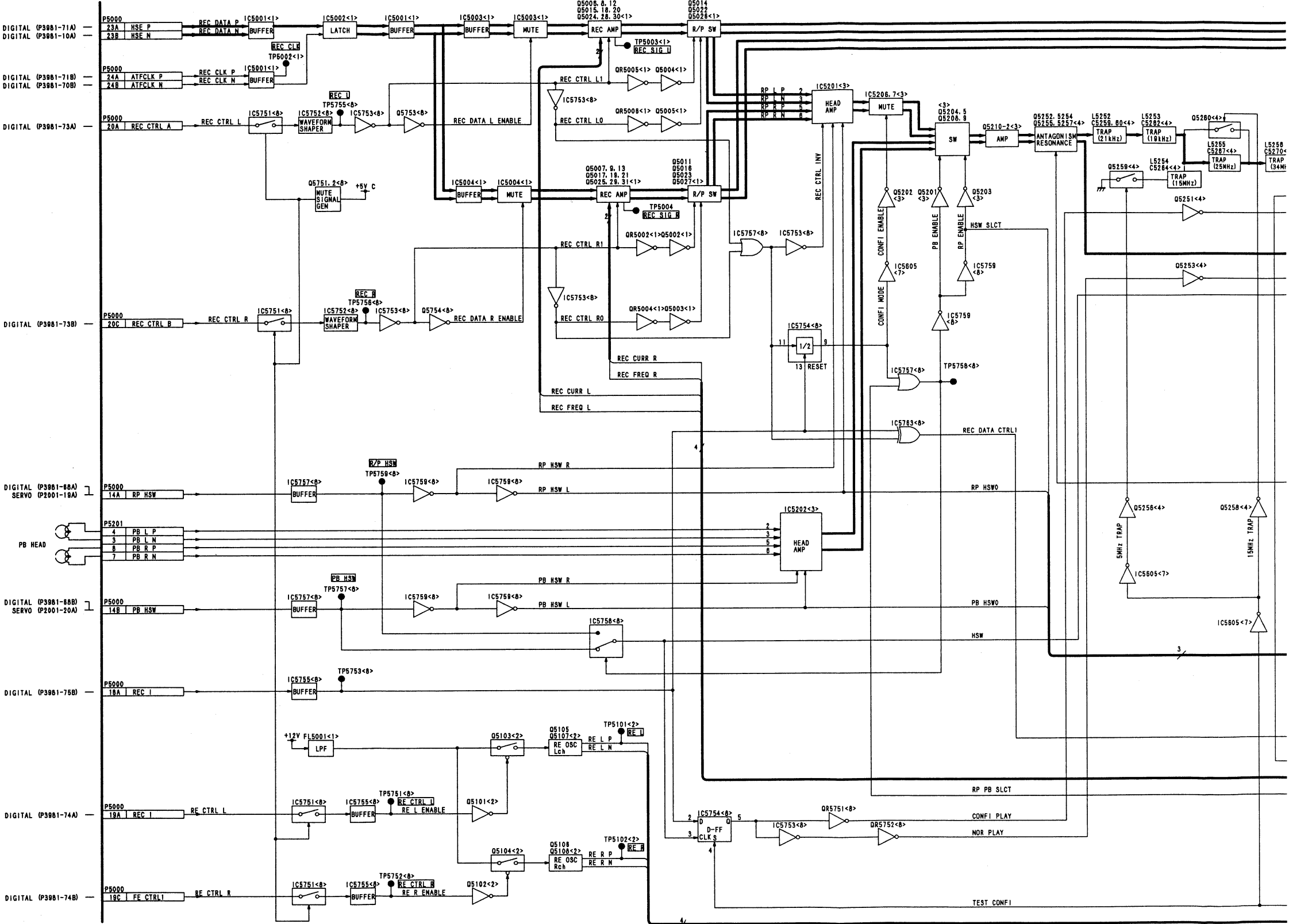
OVERALL BLOCK DIAGRAM

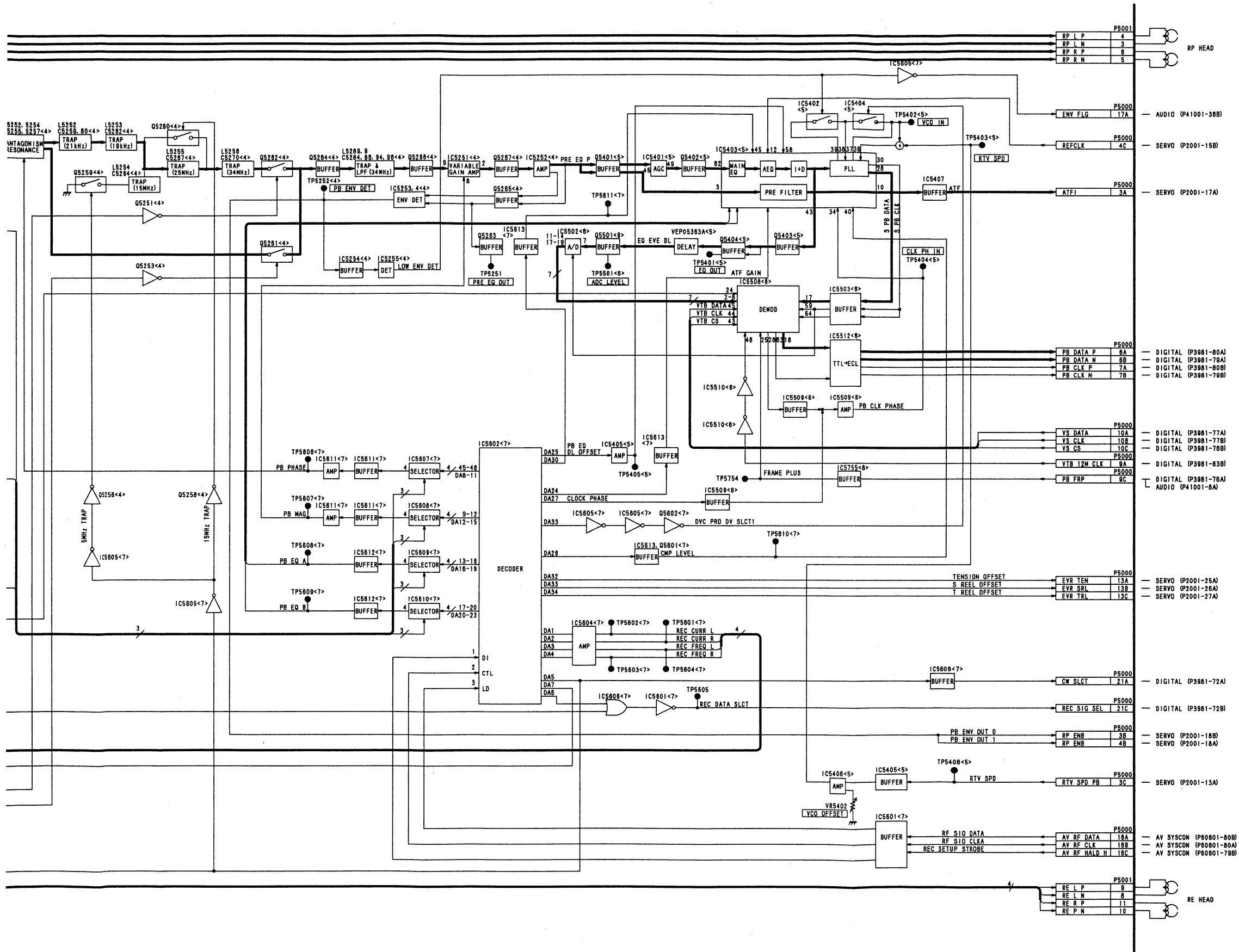


FRONT BLOCK DIAGRAM

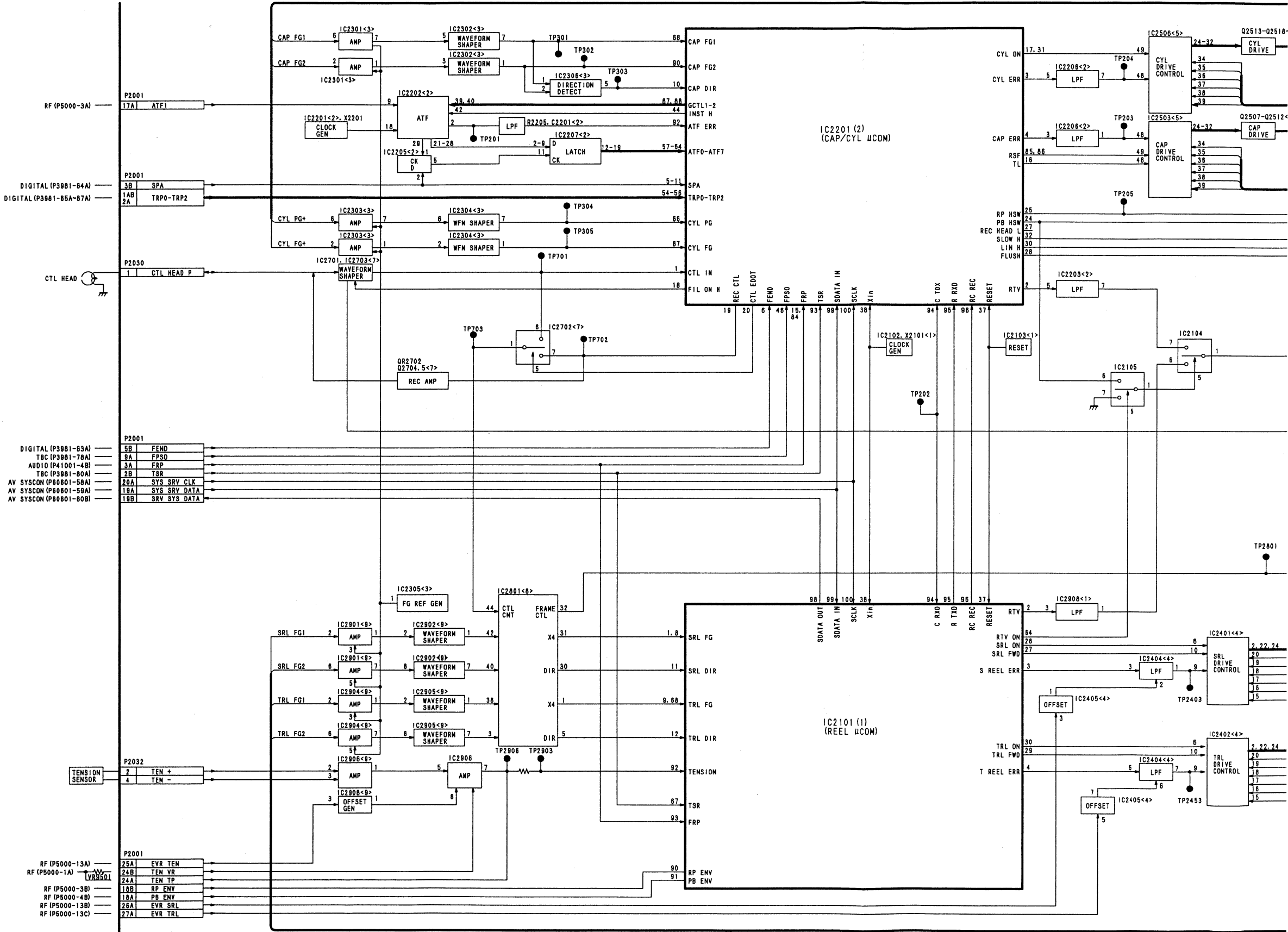


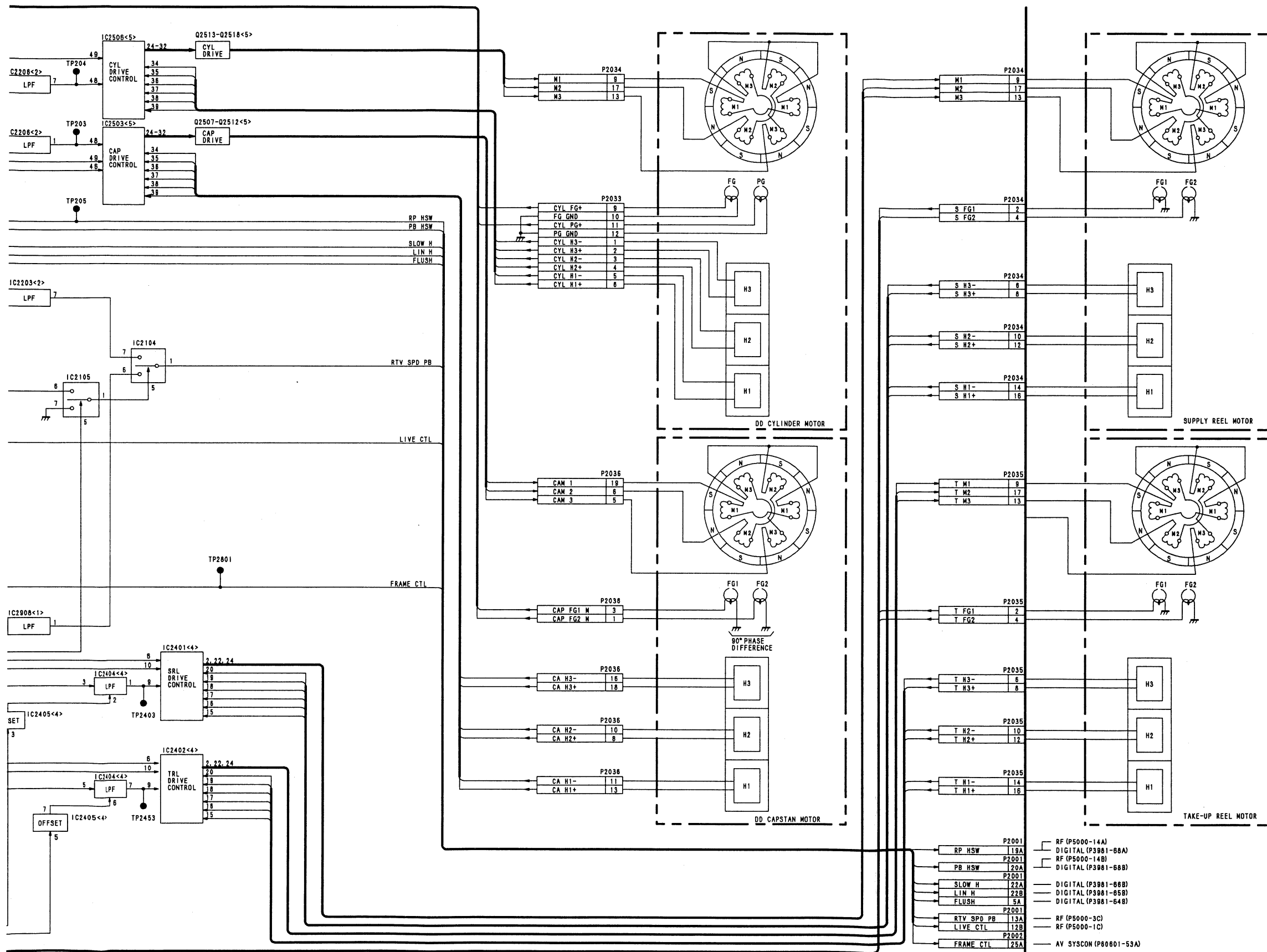
RF BLOCK DIAGRAM





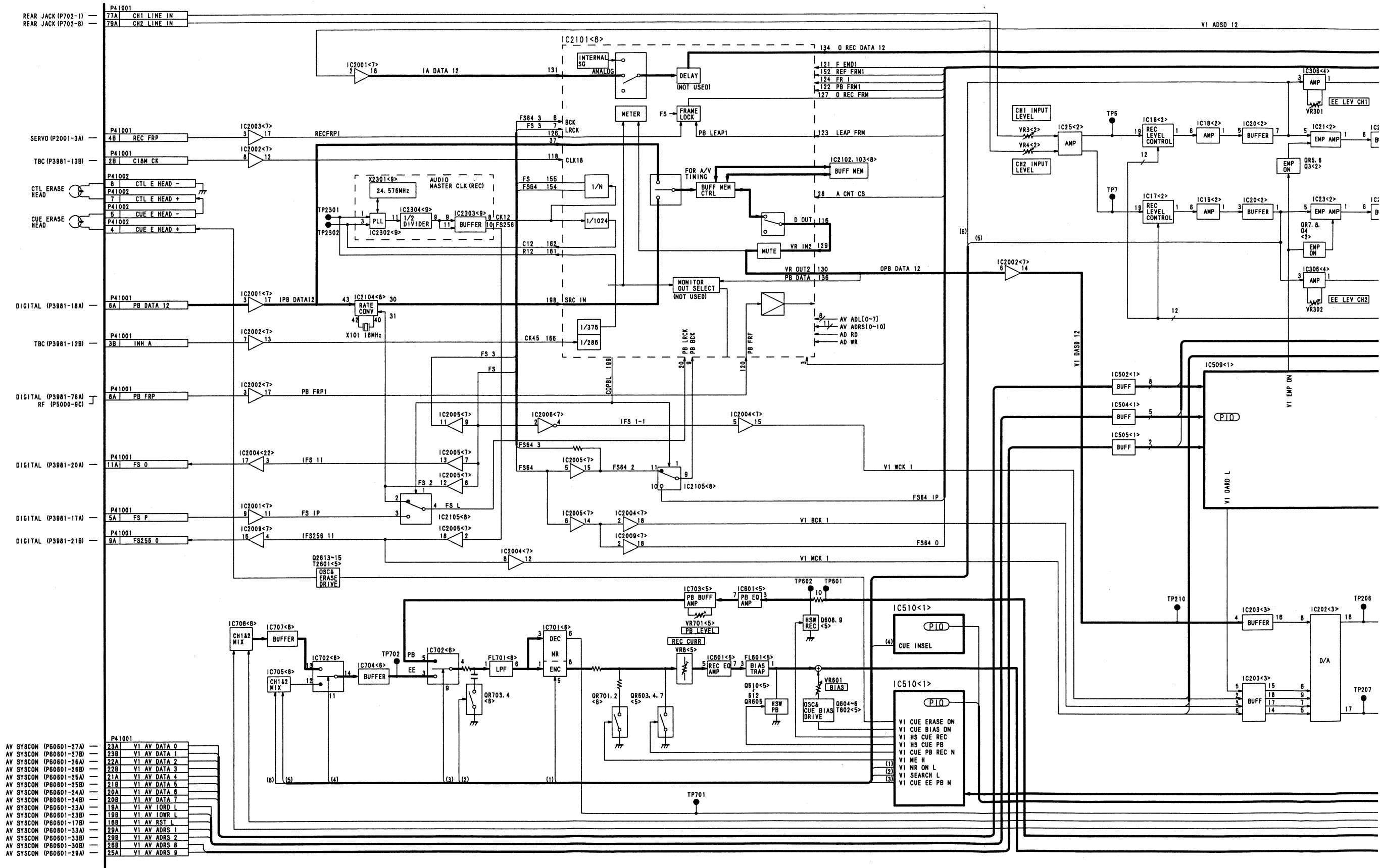
SERVO BLOCK DIAGRAM





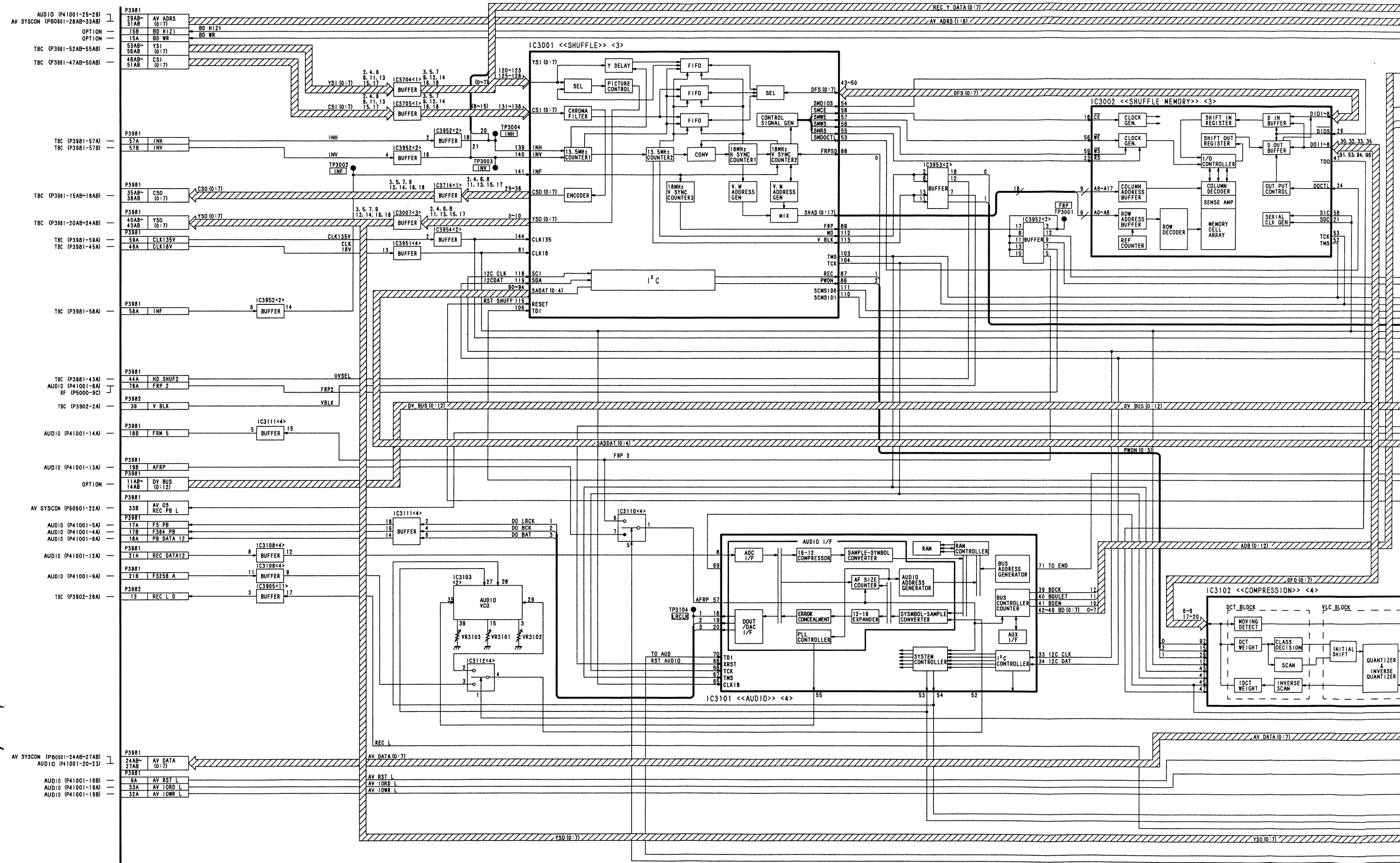
AUDIO BLOCK DIAGRAM

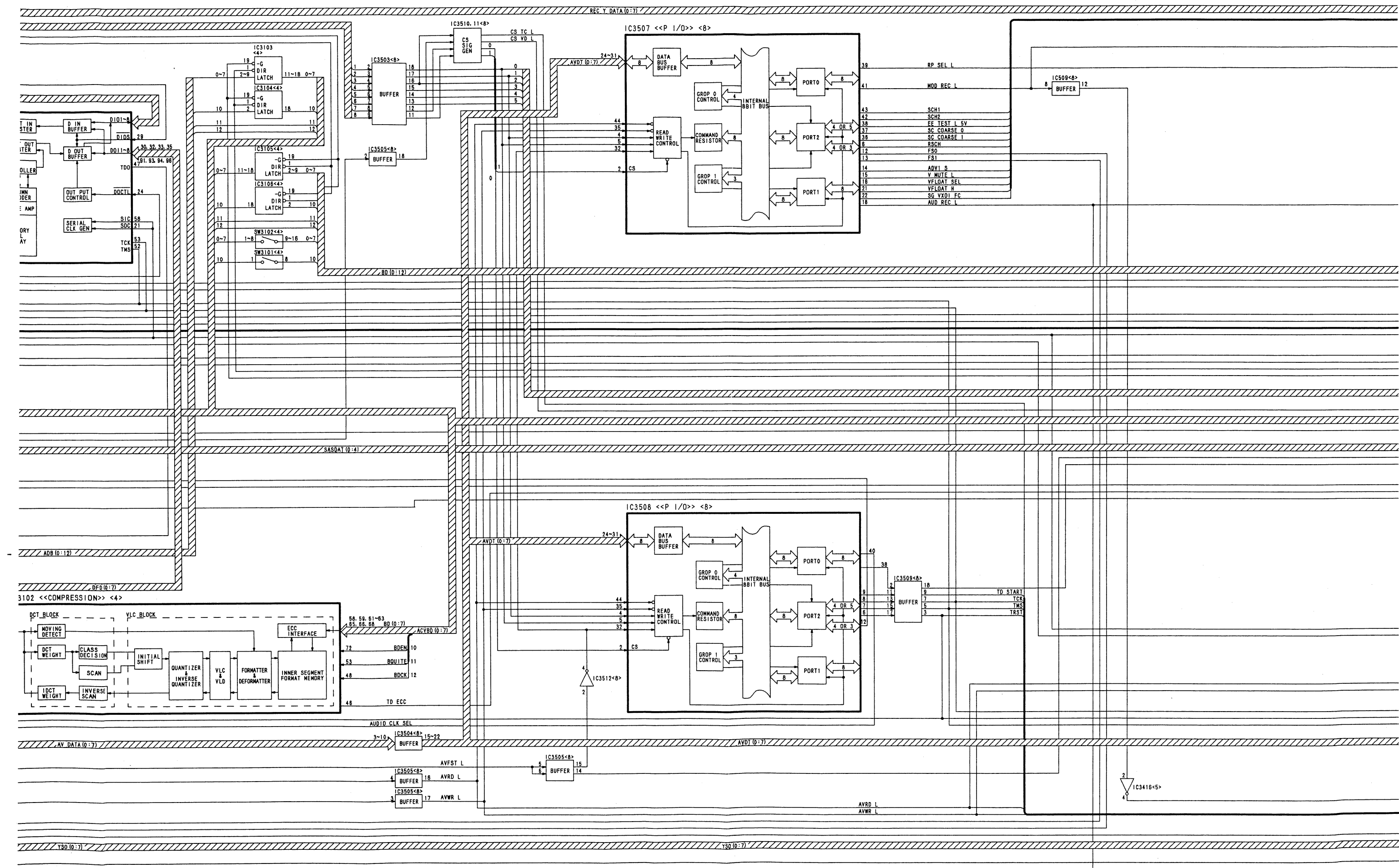
Ref No : 40000 Series.

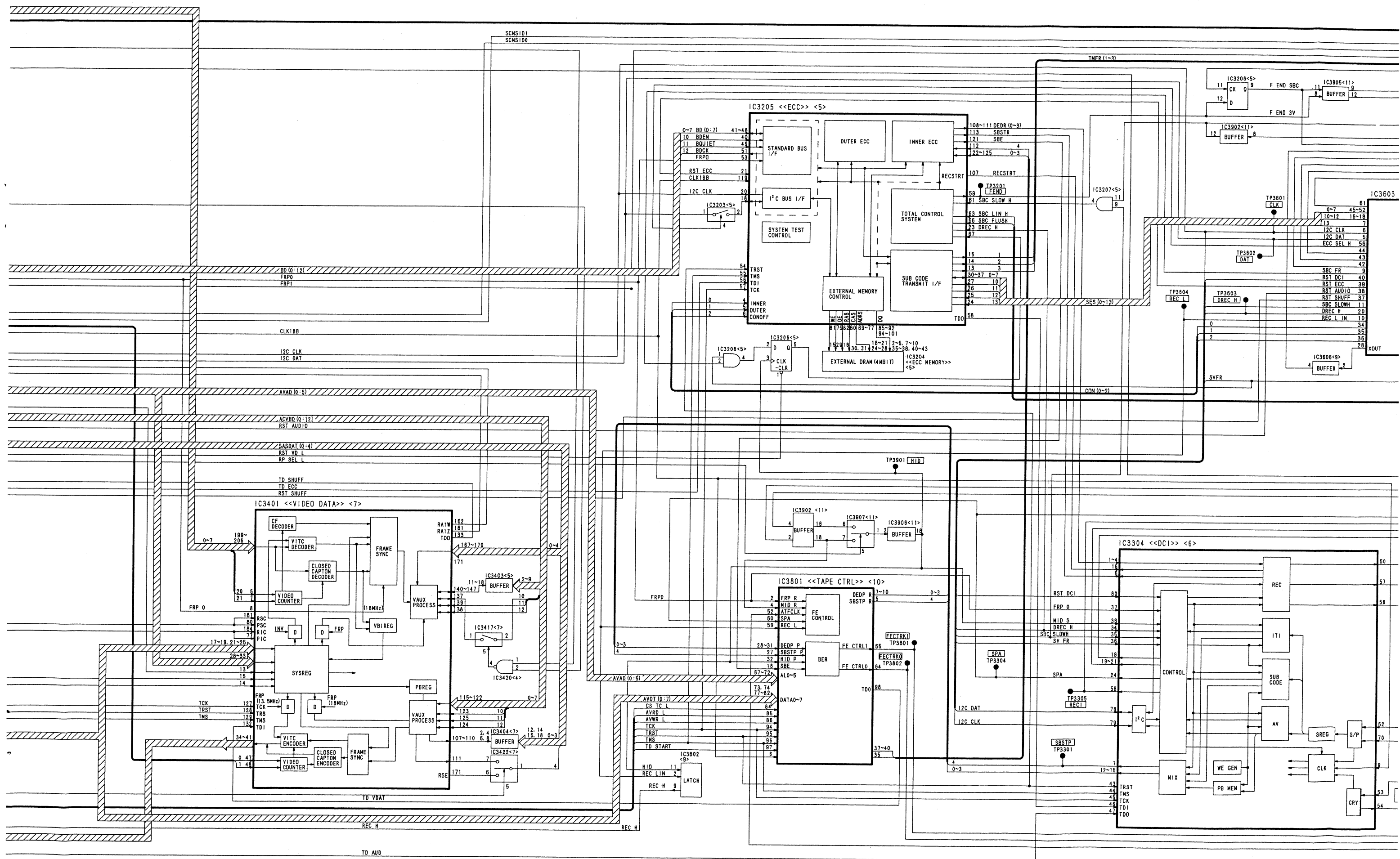


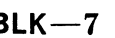


DIGITAL CORE BLOCK DIAGRAM

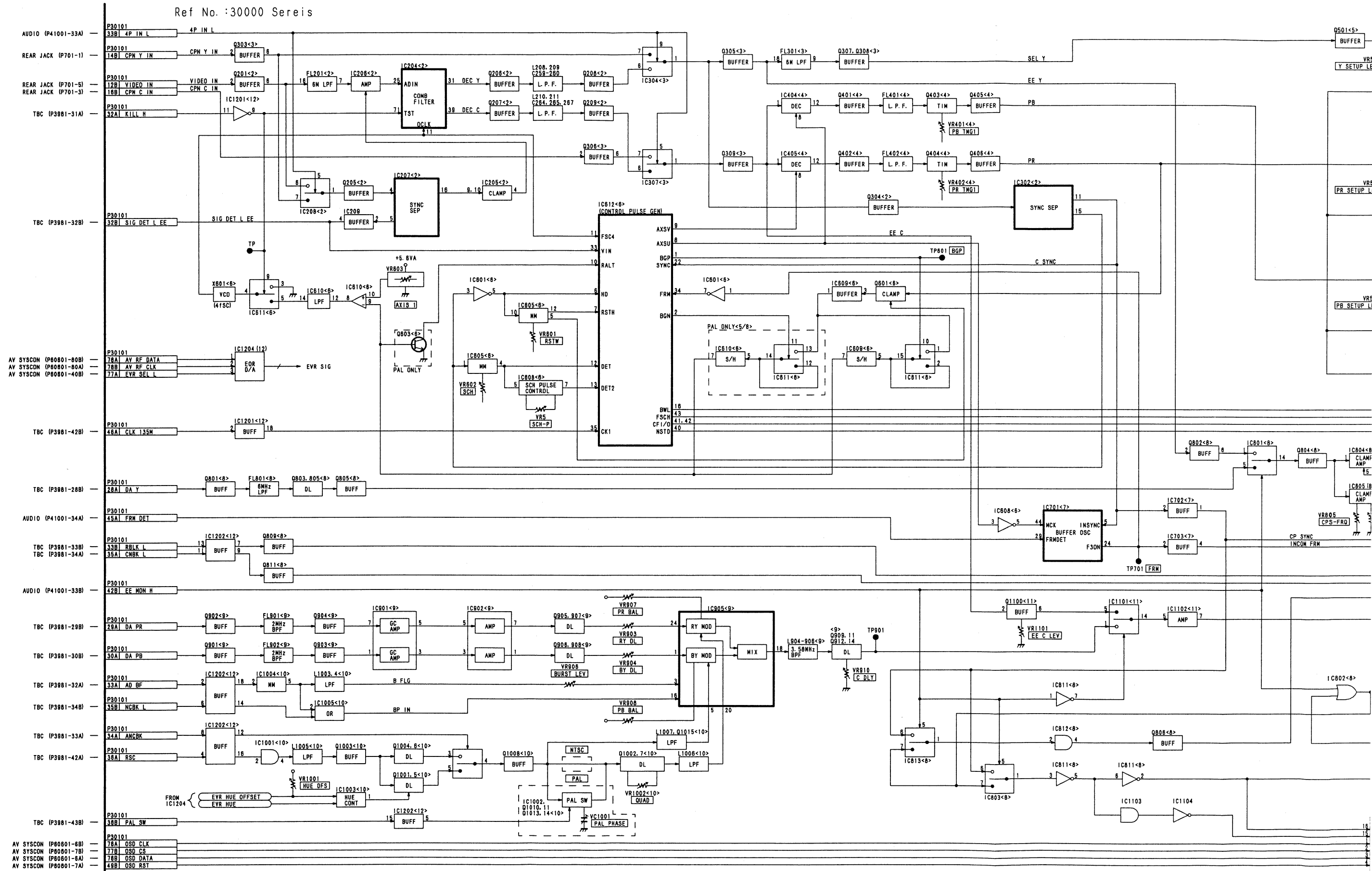


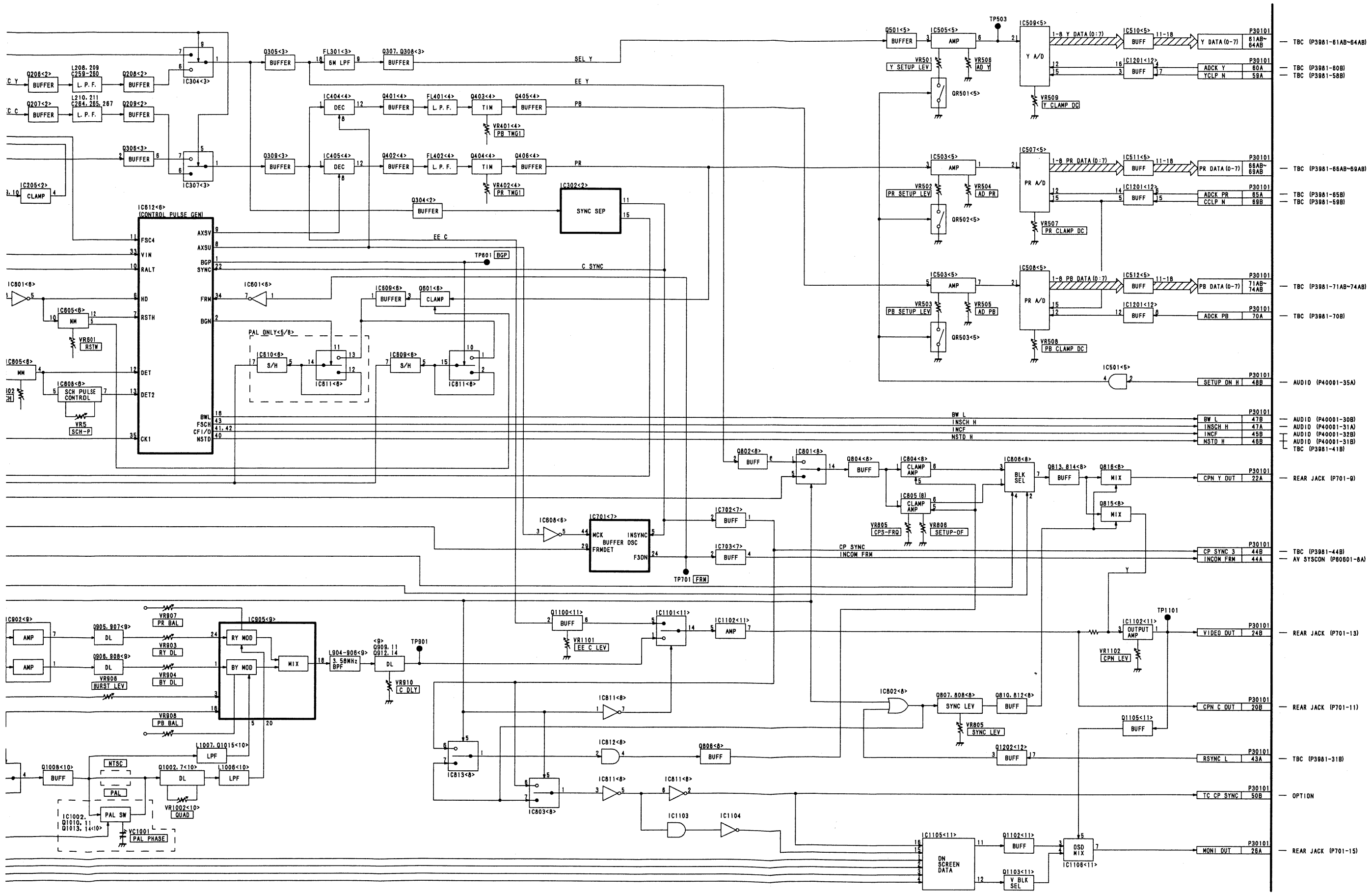






VIDEO I/O BLOCK DIAGRAM





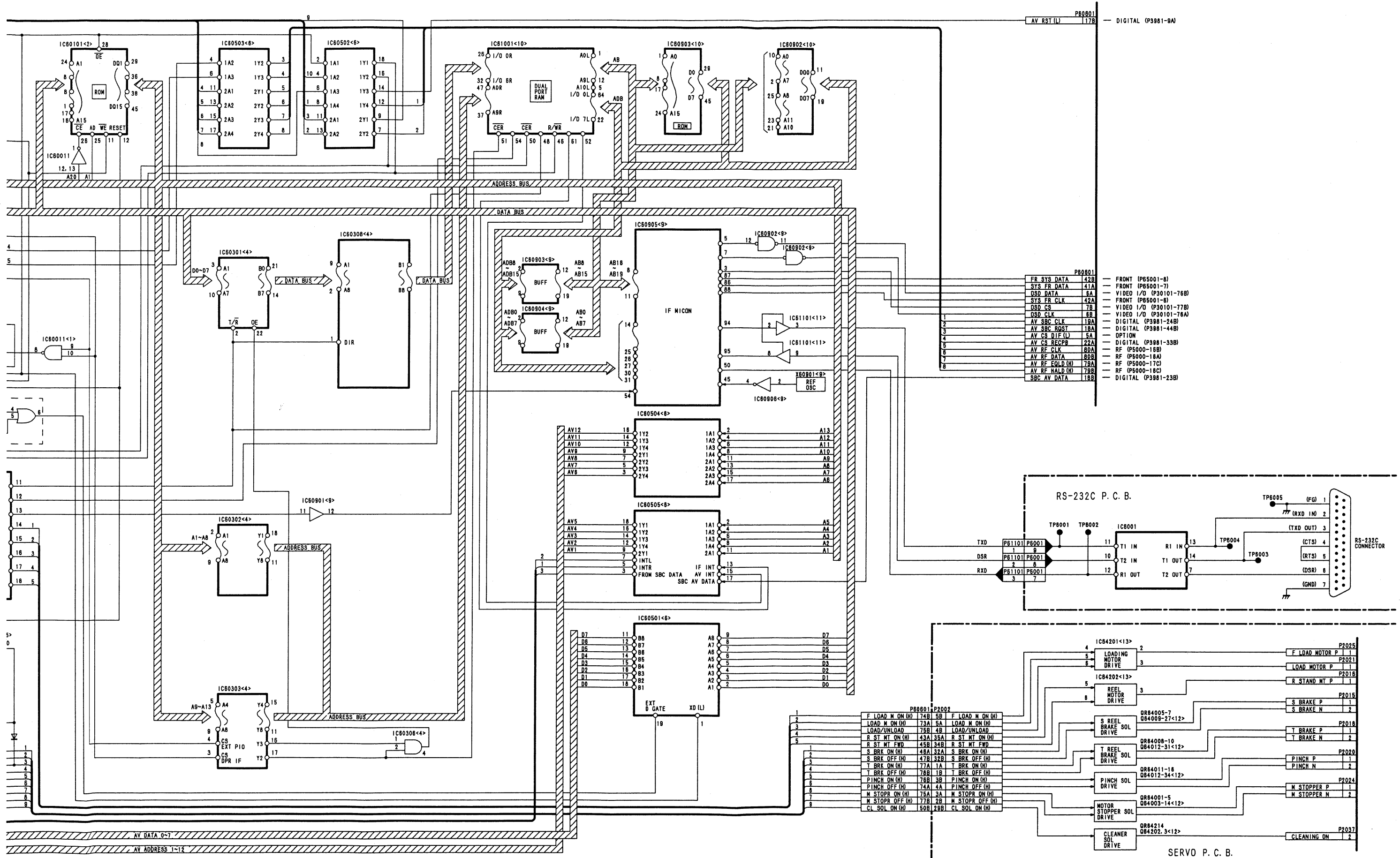
The diagram illustrates the internal wiring and logic of a VCR, showing the connection of various components and the flow of data and control signals.

IC60001<1> Truth Table:

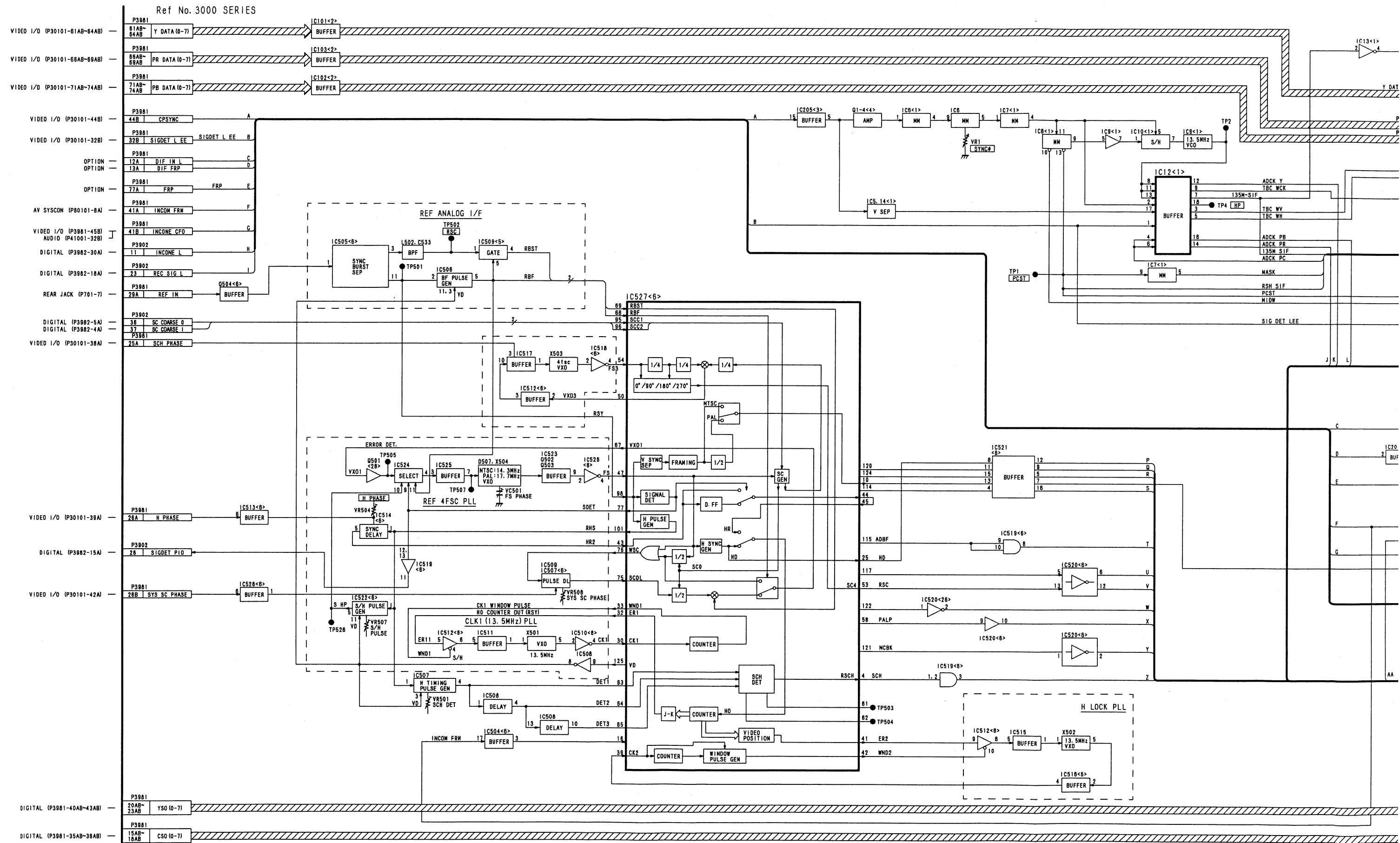
PIN	PORT	IN/OUT	SIGNAL	ACTIVE	ACTIVE	SIGNAL	IN/OUT	PORT	PIN
96	AN5	IN	TAKE-UP PHOTO	---	---	REF. OSC	IN	X IN	13
97	AN4	IN	SUPPLY PHOTO	---	---	SBC CLK	OUT	CLOCK90	87
79	P88	IN	---	---	---	SBC ROST	OUT	P107	92
78	P85	IN	JIG	L	---	SBC DATA	OUT	TXD0	85
80	P97	OUT	SW	---	---	INTR	IN	P64	9
86	RXD0	IN	---	---	---	INTL	IN	P94	77
83	RXD1	IN	SRV SYS DATA	---	---	SYS SRY CLOCK	OUT	SCLK01	84
5	P87	IN	TC L	---	---	SYS SRY DATA	OUT	TXD1	82
6	P86	IN	INT LTCR H	L	---	WRIGHT	OUT	BHW	20
7	P85	IN	FRP	L	---	LOAD	OUT	POS	21
92	P92	IN	INVALID	L	---	---	OUT	PCLK	23
9	RESET	IN	RESET	L	---	---	OUT	P37	26
72	P92	IN	FLASH WRITE	L	---	---	OUT	A11	49
71	P90	IN	DSW2	---	---	ADDRESS BUS	OUT	---	37
73	P92	IN	SOLENOID NG	L	---	---	---	A30	27
74	P93	IN	CAPSTAN FG	---	---	DATA BUS	IN/OUT	D15	68
88	INT5	IN	INT0	---	---	---	---	---	---
89	INT4	IN	FEND SYS	---	---	---	---	---	---

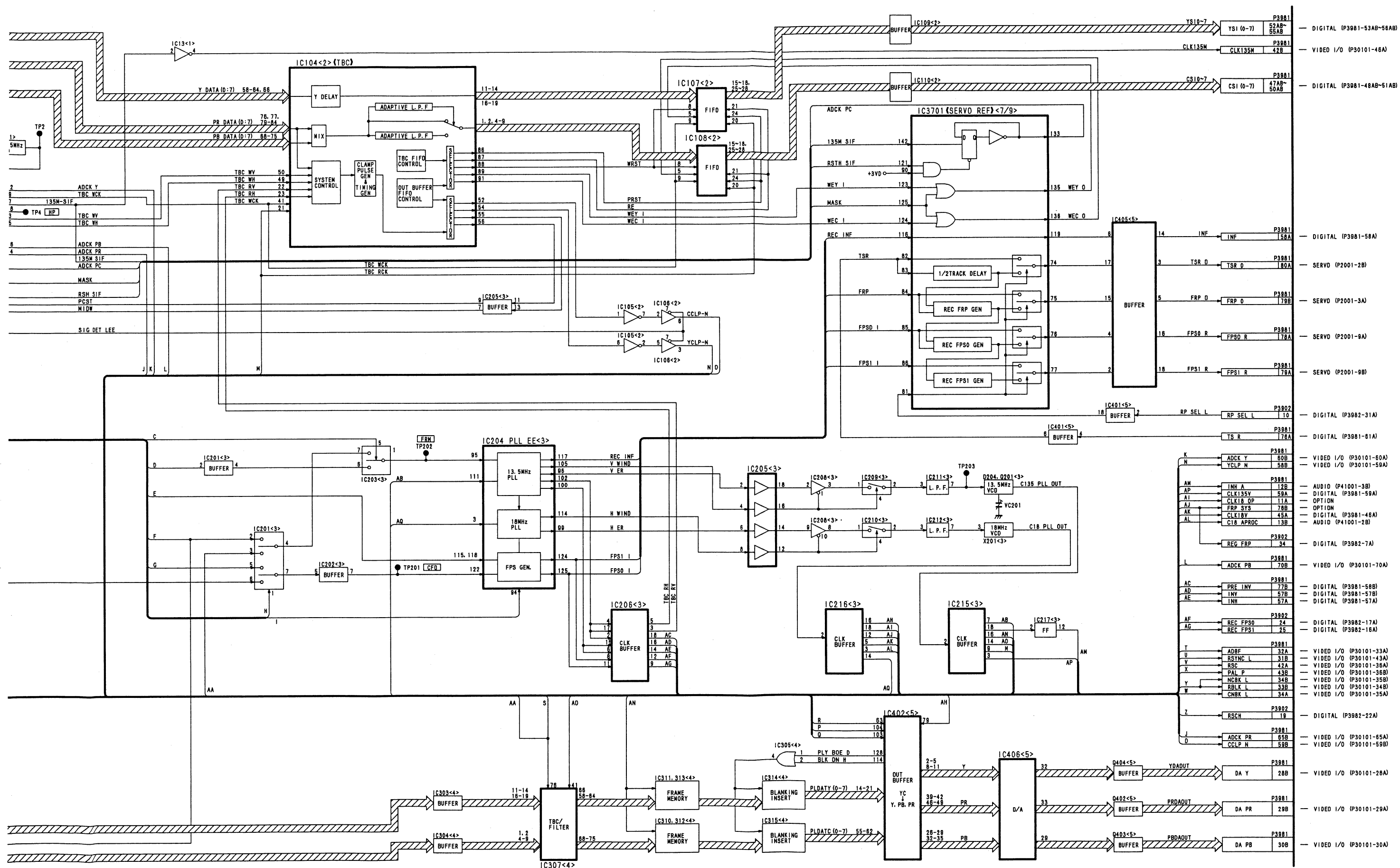
IC60201<3> Truth Table:

PIN	PORT	IN/OUT	SIGNAL	ACTIVE	ACTIVE	SIGNAL	IN/OUT	PORT	PIN
58	P57	IN	MECHA POSITION 1	L	---	---	---	IA0	91
57	P56	IN	MECHA POSITION 2	L	---	---	---	IA3	94
56	P55	IN	MECHA POSITION 3	L	---	---	---	---	---
45	P44	IN	DEW	---	---	---	---	DO	81
80	P77	IN	SAFETY TAB	L	---	---	---	D7	86
48	P45	IN	REEL POSITION 1	L	---	---	---	---	89
47	P46	IN	REEL POSITION 2	L	---	---	---	P100	95
48	P47	IN	FAN NG	L	L	RD	IN	IRD	96
28	P28	OUT	T START	L	L	WR	IN	IWR	97
27	P27	OUT	T END	L	---	---	---	---	98
43	P42	IN	CL SOLENOID NG	L	---	---	---	---	99
41	P40	---	---	H	H	FILM ON	OUT	P30	29
17	P16	OUT	CL SOL ON	H	H	LW ON	OUT	P31	30
21	P21	---	---	H	H	LD/UNLD	OUT	P32	31
51	P51	IN	CASSETTE UP	L	H	RSM ON	OUT	P35	34
55	P54	IN	CASSETTE MID	H	H	RSM FWD	OUT	P36	35
54	P53	IN	CASSETTE DOWN	H	H	SRL BRK ON	OUT	P00	100
50	P50	IN	CASSETTE IN L	H	H	SRL BRK OFF	OUT	P01	1
52	P52	IN	CASSETTE IN R	H	H	TRL BRK ON	OUT	P02	2
78	P77	IN	CASSETTE 1	H	H	TRL BRK OFF	OUT	P03	4
77	P75	IN	CASSETTE 2 (L)	H	H	PINCH SOL			



TBC BLOCK DIAGRAM





SECTION 6

SCHEMATIC DIAGRAMS

NOTE

(EX1)

TITLE OF CIRCUIT

CIRCUIT NO.

NEXT CIRCUIT NO.

VIDEO OUTPUT (1/19)

SCHEMATIC DIAGRAM

SYSCON (17)

CHARA_BL

NEME OF SIGNAL

THIS SIGNAL IS CONNECTED TO NEXT SCHEMATIC. PLESE REFER TO
「SYSTEM CONTROL(1/19) SCHEMATIC DIAGRAM」

(EX2)

TC7W04FUTL

TC7W04FUTL

C3022

15pF(NTSC MODEL ONLY)

C3022

C3037

\$REF\$	NTSC
C3022	15P/UV
C3037	*PAT/UV

* Mark:

Parts value, see table in the
Schematic diagram.

C3037

(No PART)

IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY THE SAME TYPE.

DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.



CAUTION

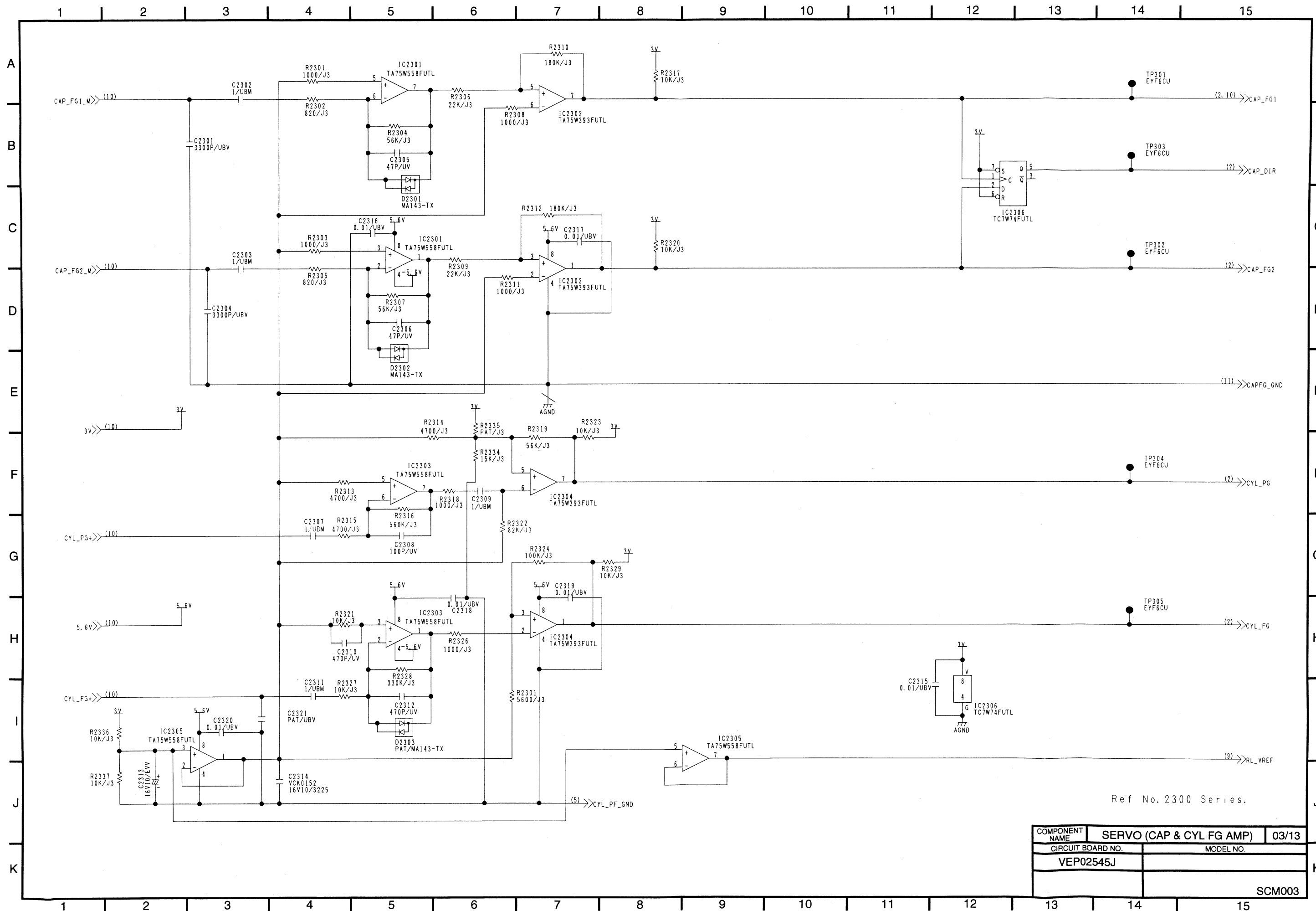
THE  MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.

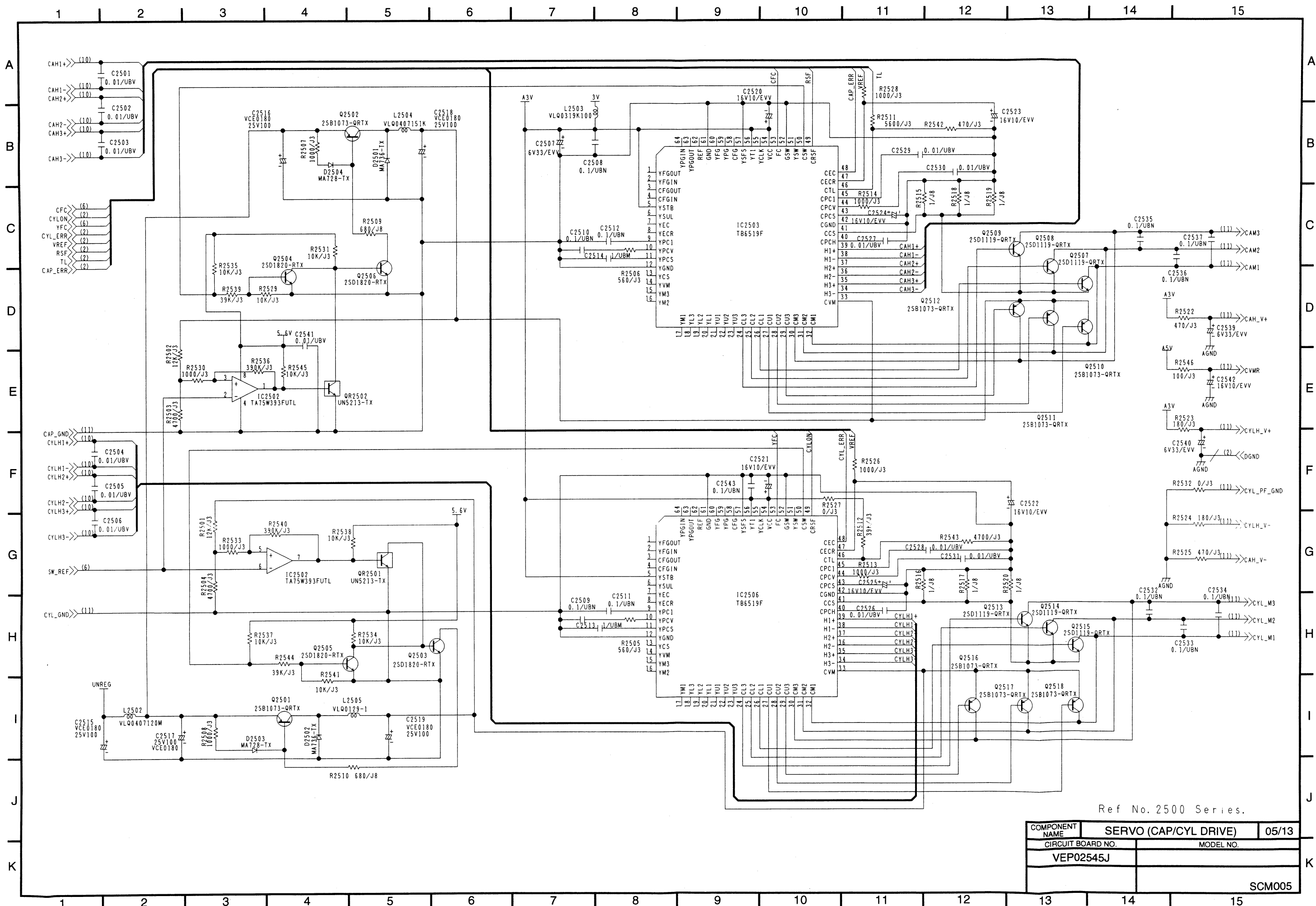
PAY ATTENTION NOT RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

CONTENTS

SERVO (REEL SERVO MICON)	SCM001
SERVO (MICON-C & ATF)	SCM002
SERVO (CAP & CYL FG AMP)	SCM003
SERVO (REEL SERVO DRIVE)	SCM004
SERVO (CAP/CYL DRIVE)	SCM005
SERVO (REEL SERVO SW POWER)	SCM006
SERVO (CTL AMP)	SCM007
SERVO (FRAME CTL)	SCM008
SERVO (REEL SERVO FG AMP)	SCM009
SERVO (CONNECT)	SCM010
SERVO (MECHA I/F)	SCM011
SERVO (BREAK & PINCH)	SCM012
SERVO (LOADING)	SCM013
AUDIO (CONTROL)	SCM014
AUDIO (INPUT AD)	SCM015
AUDIO (DA)	SCM016
AUDIO(OUTPUT)	SCM017
AUDIO (CUE 1)	SCM018
AUDIO (CUE 2)	SCM019
AUDIO (DVC IOB)	SCM020
AUDIO (DVC CNT)	SCM021
AUDIO (DVC PLL)	SCM022
AUDIO (DVC SYS)	SCM023
AUDIO (CONNECT)	SCM024
AV SYSCON	SCM025
AV SYSCON (ROM)	SCM026
AV SYSCON (PIO)	SCM027
AV SYSCON (EXT PIO DPR I/F)	SCM028
AV SYSCON (SOL LOGIC)	SCM029
AV SYSCON (BUS I/F)	SCM030
AV SYSCON (MOTHER CONNECT)	SCM031
AV SYSCON (JIG I/F)	SCM032
AV SYSCON (I/F MICON)	SCM033
AV SYSCON (IF MEMORY)	SCM034
AV SYSCON(OPTION BOARD)	SCM035
VIDEO I/O(CONNECTOR)	SCM036
VIDEO I/O(Y/C SEP)	SCM037
VIDEO I/O(SYNC SEP)	SCM038
VIDEO I/O(C DECODER)	SCM039
VIDEO I/O(ADC)	SCM040
VIDEO I/O(PLL & CF DET)	SCM041
VIDEO I/O(BUFF OSC)	SCM042
VIDEO I/O(Y OUT)	SCM043

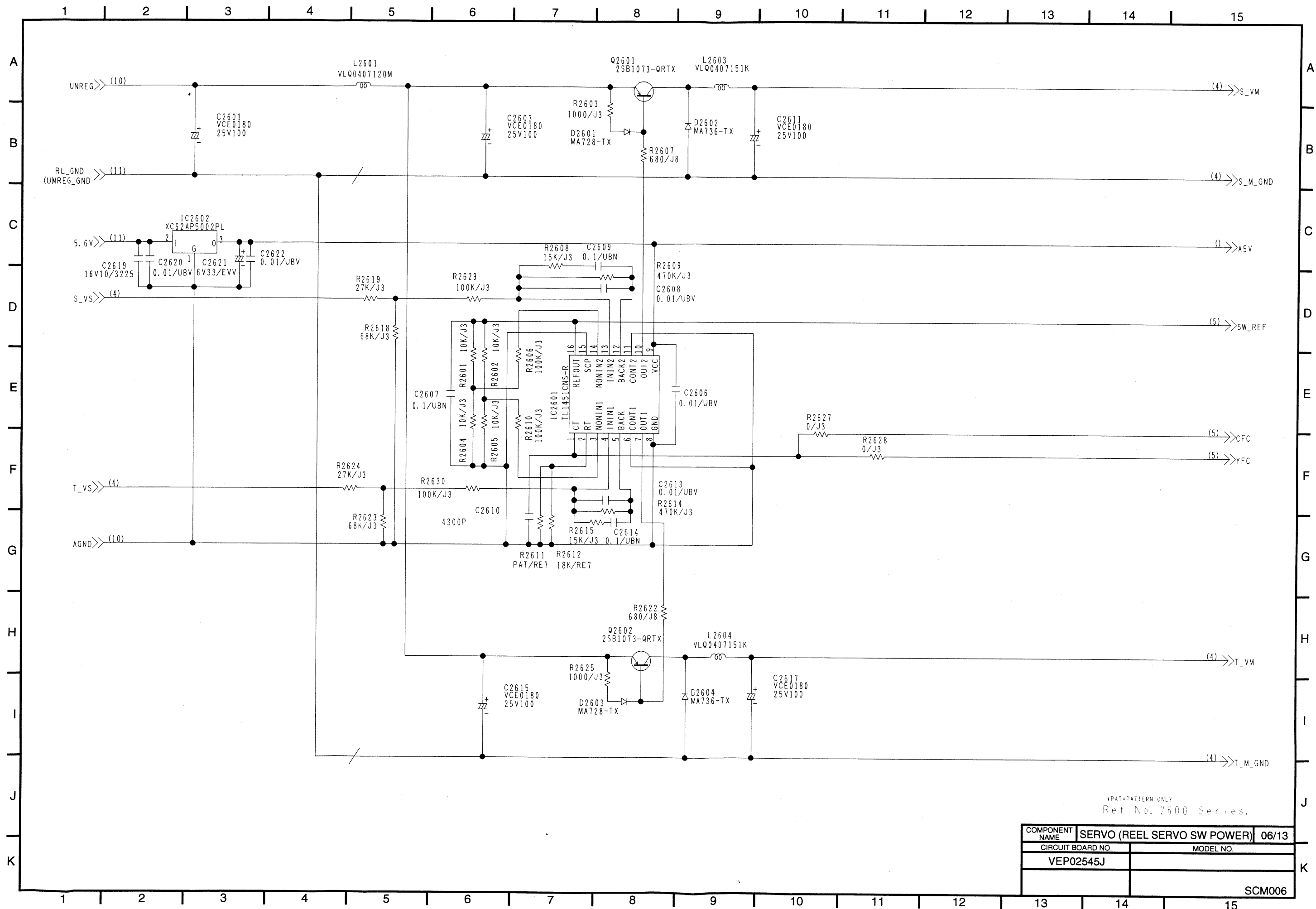
VIDEO I/O(ENCODER)	SCM044
VIDEO I/O(SC QUADRATURE)	SCM045
VIDEO I/O(VIDEO OUT)	SCM046
VIDEO I/O(EVR DAC)	SCM047
TBC(13.5M PLL)	SCM048
TBC(INPUT TBC)	SCM049
TBC(PLL EE)	SCM050
TBC(OUTPUT TBC)	SCM051
TBC(OUTPUT BUFFER)	SCM052
TBC(SYNC GEN)	SCM053
TBC(INTERFACE)	SCM054
DIGITAL CORE(PRE SHUFFLE)	SCM055
DIGITAL CORE(CLK BUFF)	SCM056
DIGITAL CORE(SHUFFLE)	SCM057
DIGITAL CORE(COMP/AUDIO)	SCM058
DIGITAL CORE(ECC)	SCM059
DIGITAL CORE(DCI)	SCM060
DIGITAL CORE(VIDEO DATA)	SCM061
DIGITAL CORE(PIO)	SCM062
DIGITAL CORE(SBC)	SCM063
DIGITAL CORE(TAPE CTL)	SCM064
DIGITAL CORE(SV I/O)	SCM065
DIGITAL CORE(I/F)	SCM066
MOTHER	SCM067
MOTHER	SCM068
MOTHER	SCM069
MOTHER	SCM070
RF(REC DRIVER)	SCM071
RF(RE DRIVER)	SCM072
RF(HEAD AMP)	SCM073
RF(PRE EQ ; ENV DET)	SCM074
RF(AGC ; EQ)	SCM075
RF(VTB)	SCM076
RF(EVR)	SCM077
RF(PIO)	SCM078
RF(MOTHER)	SCM079
POWER 1	SCM080
POWER 2	SCM081
FRONT	SCM082
FRONT	SCM083
REAR JACK	SCM084
RS-232C	SCM085
REMOTE	SCM086

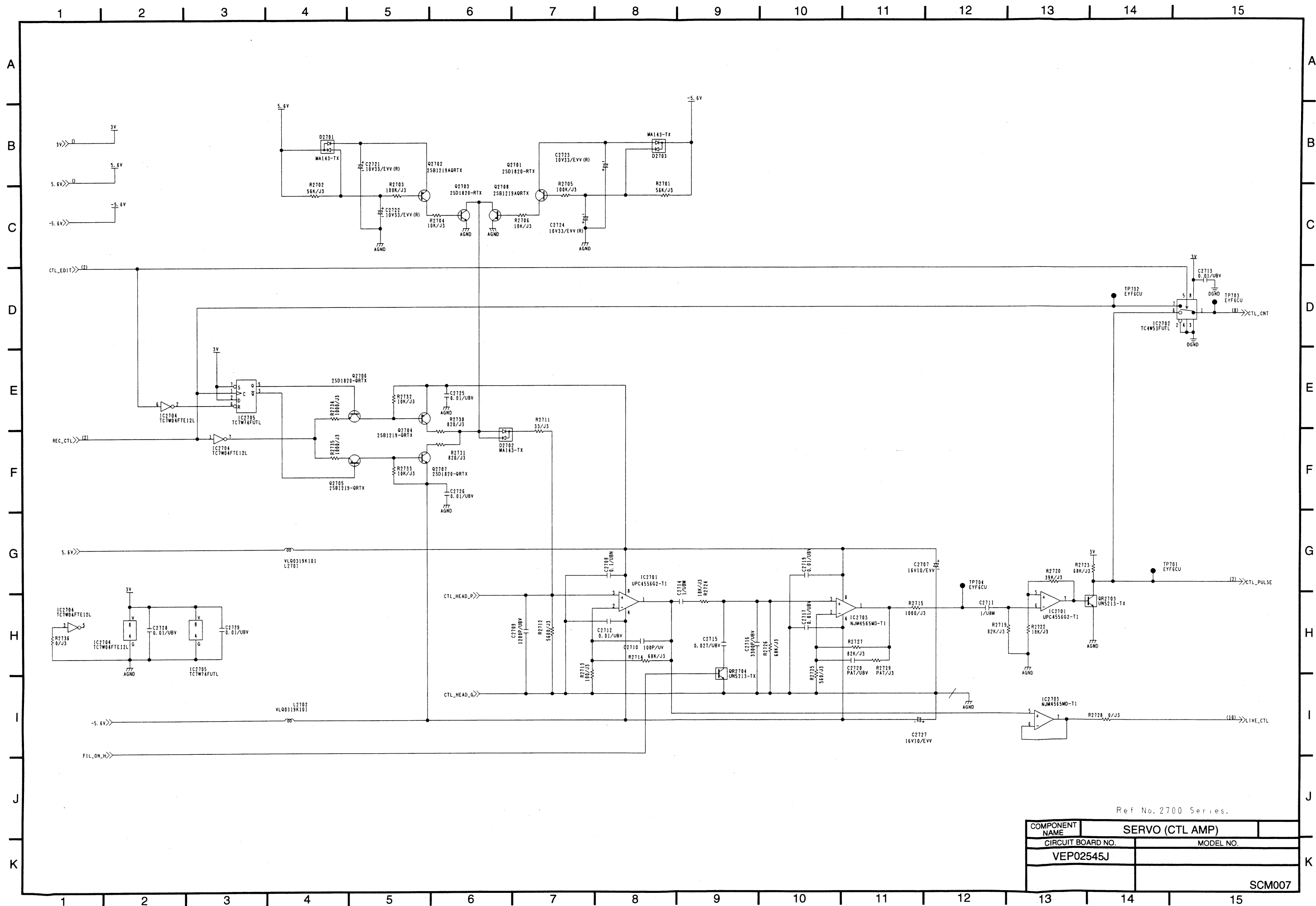


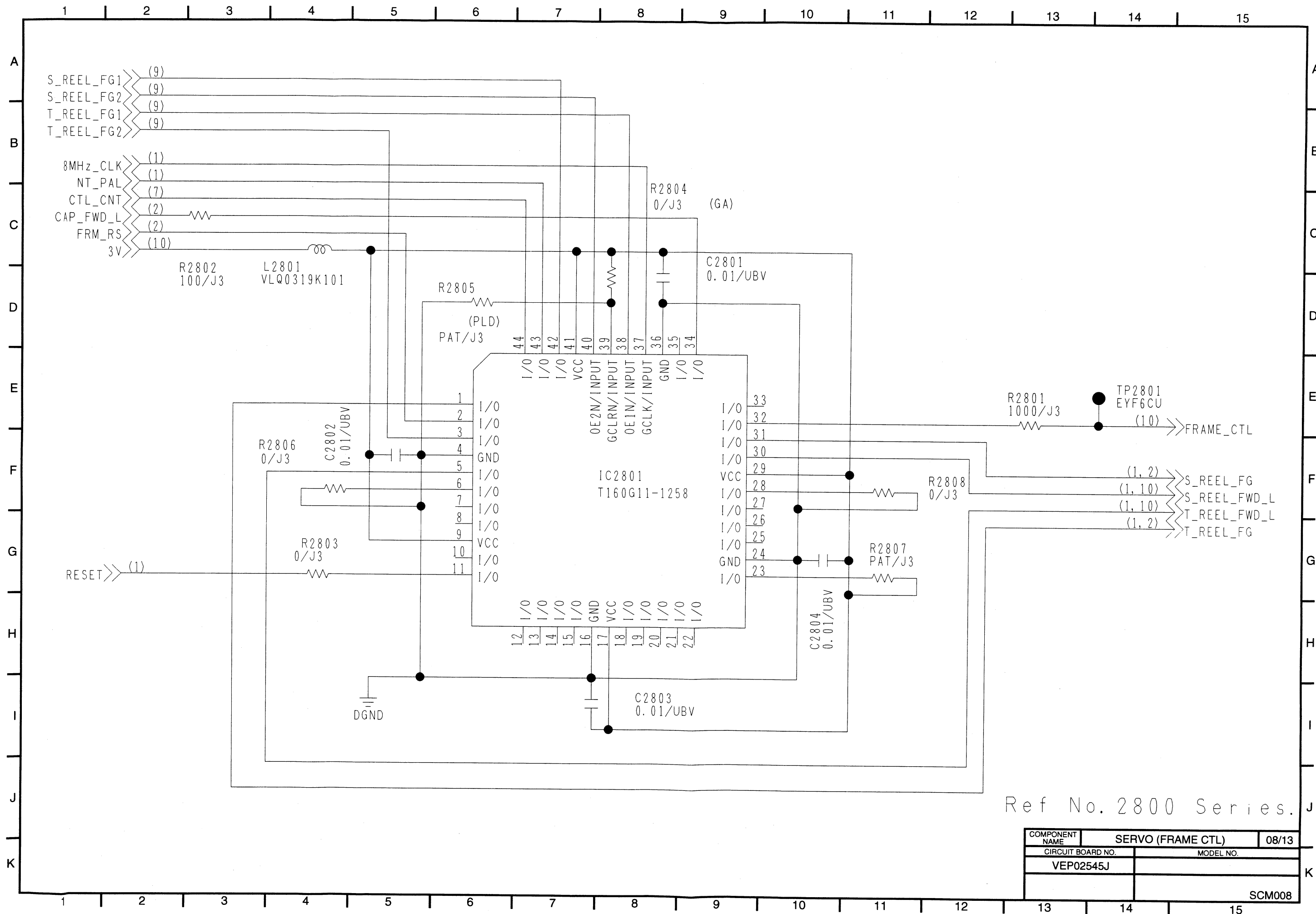


Ref No. 2500 Series.

COMPONENT NAME	SERVO (CAP/CYL DRIVE)	05/13
CIRCUIT BOARD NO.	MODEL NO.	
VEP02545J		
SCM005		

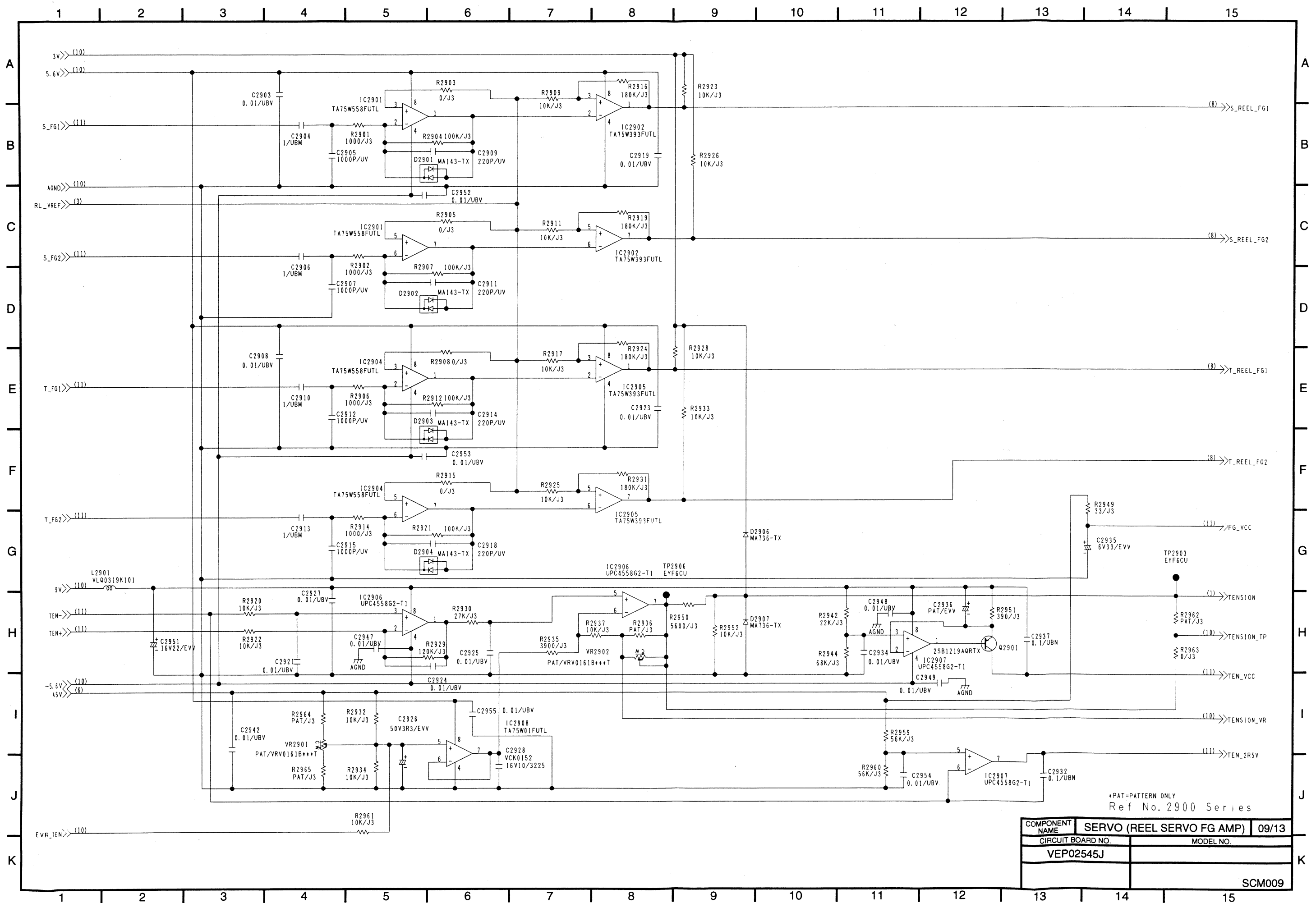


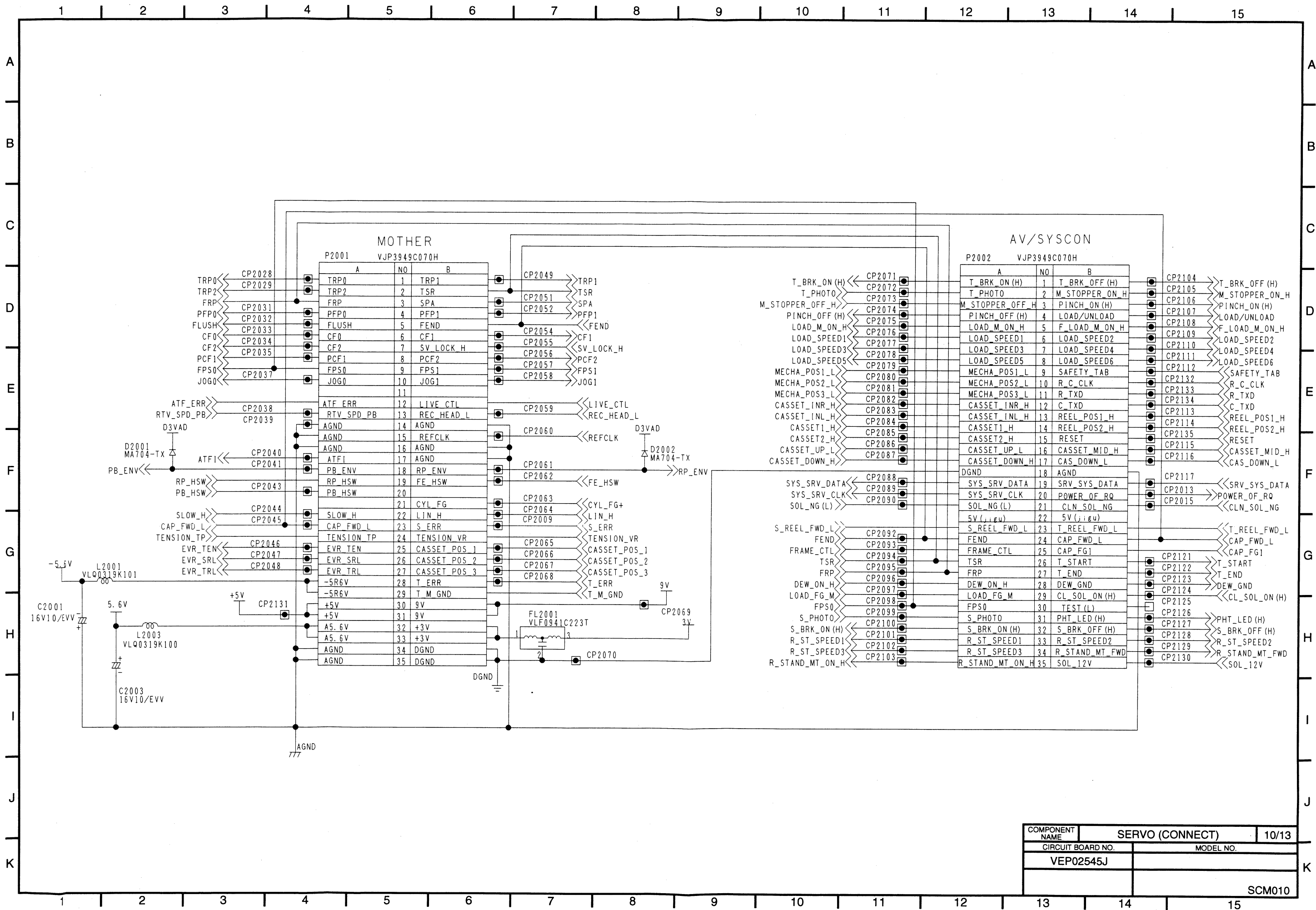


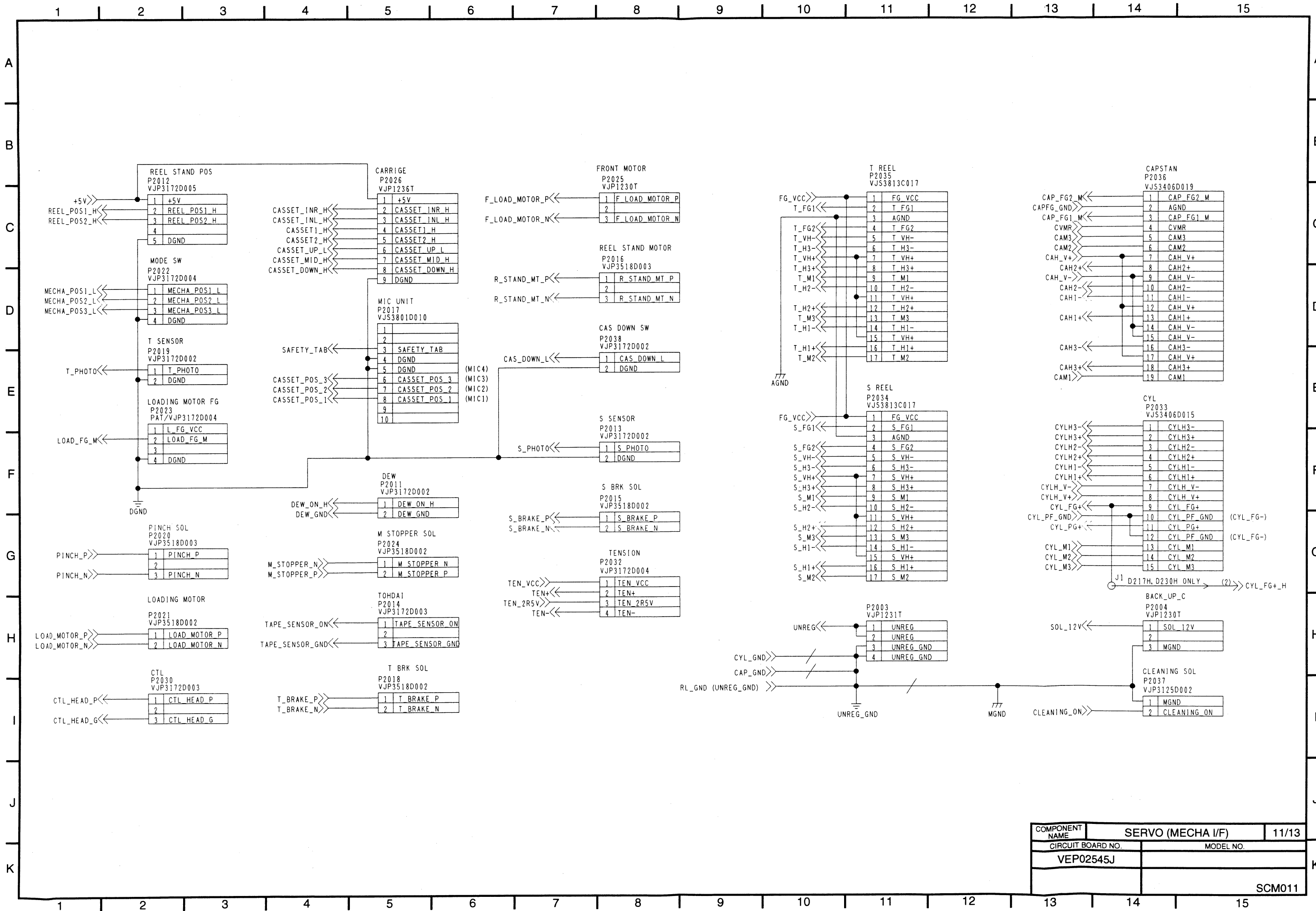


Ref No. 2800 Series.

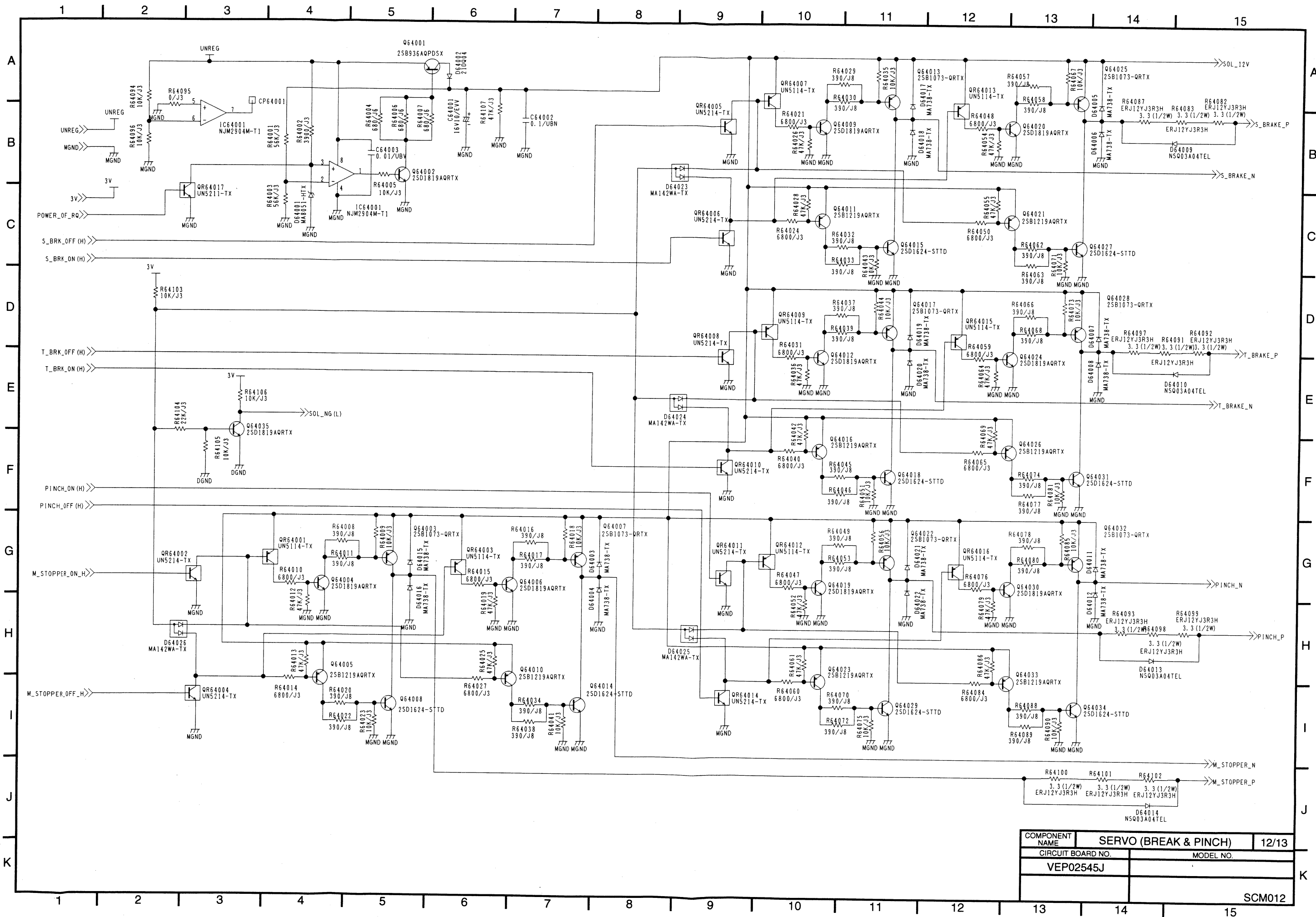
COMPONENT NAME	SERVO (FRAME CTL)	08/13
CIRCUIT BOARD NO.	MODEL NO.	
VEP02545J		
		SCM008

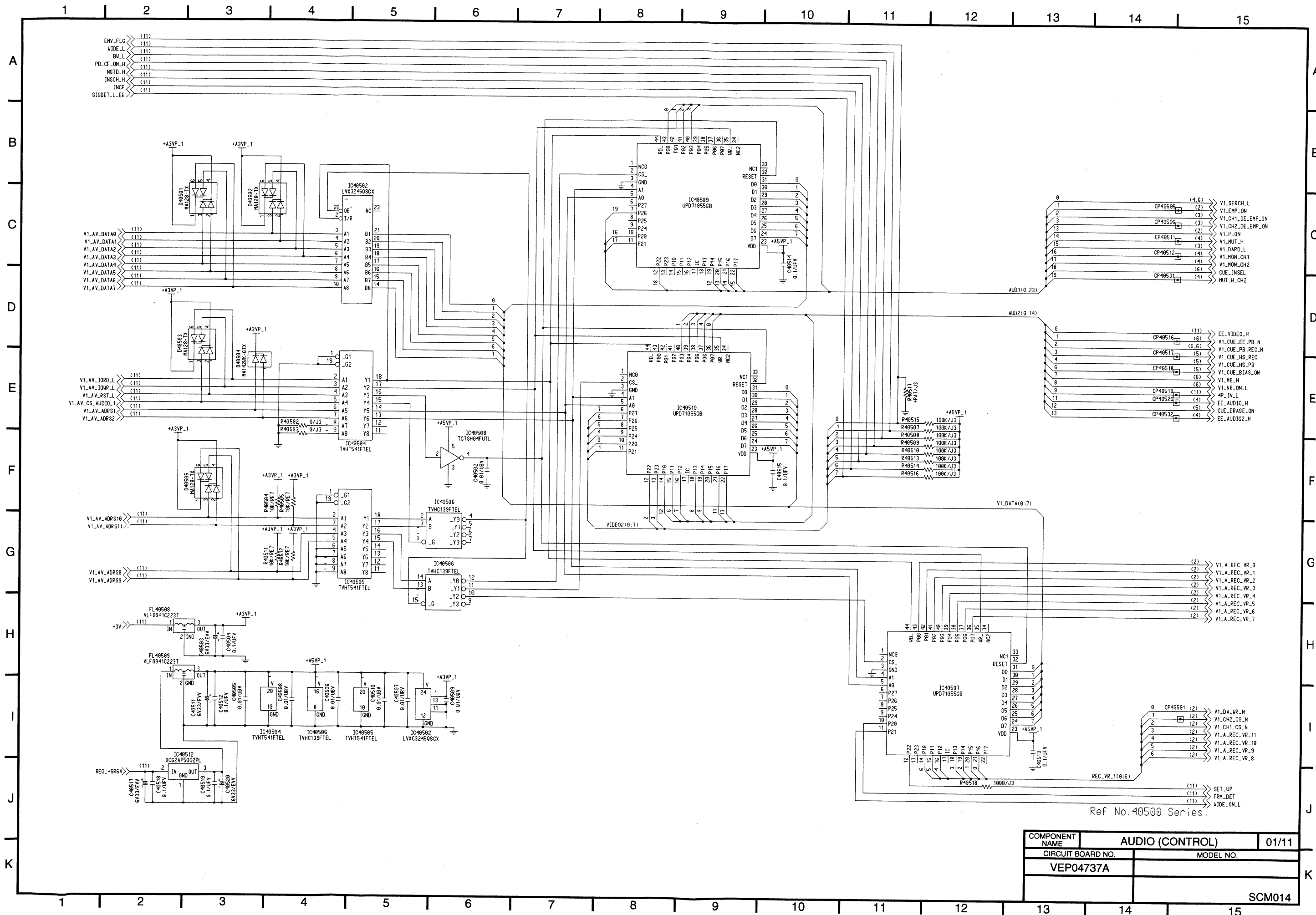






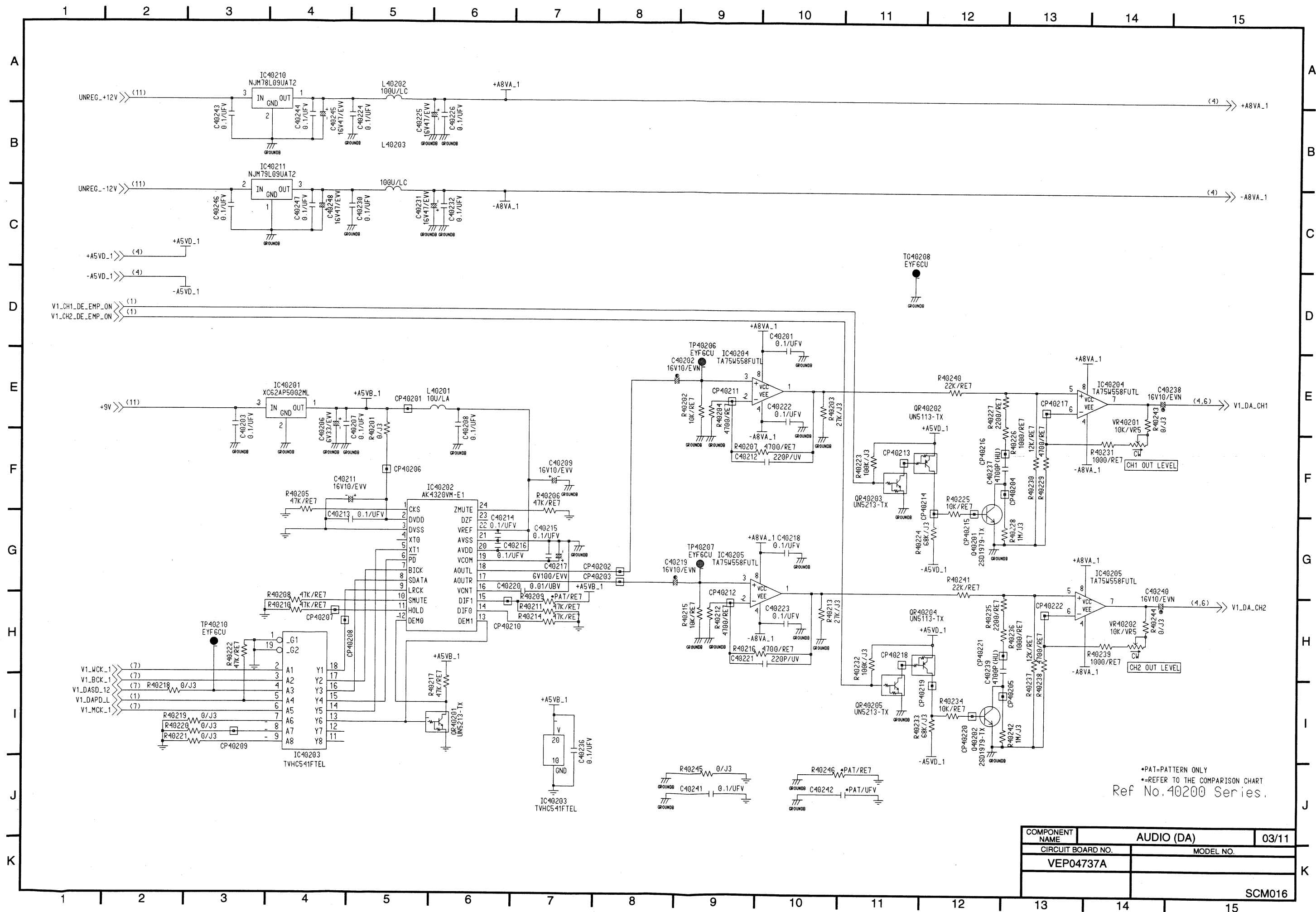
COMPONENT NAME	SERVO (MECHA I/F)	11/13
CIRCUIT BOARD NO.	MODEL NO.	
VEP02545J		
		SCM011



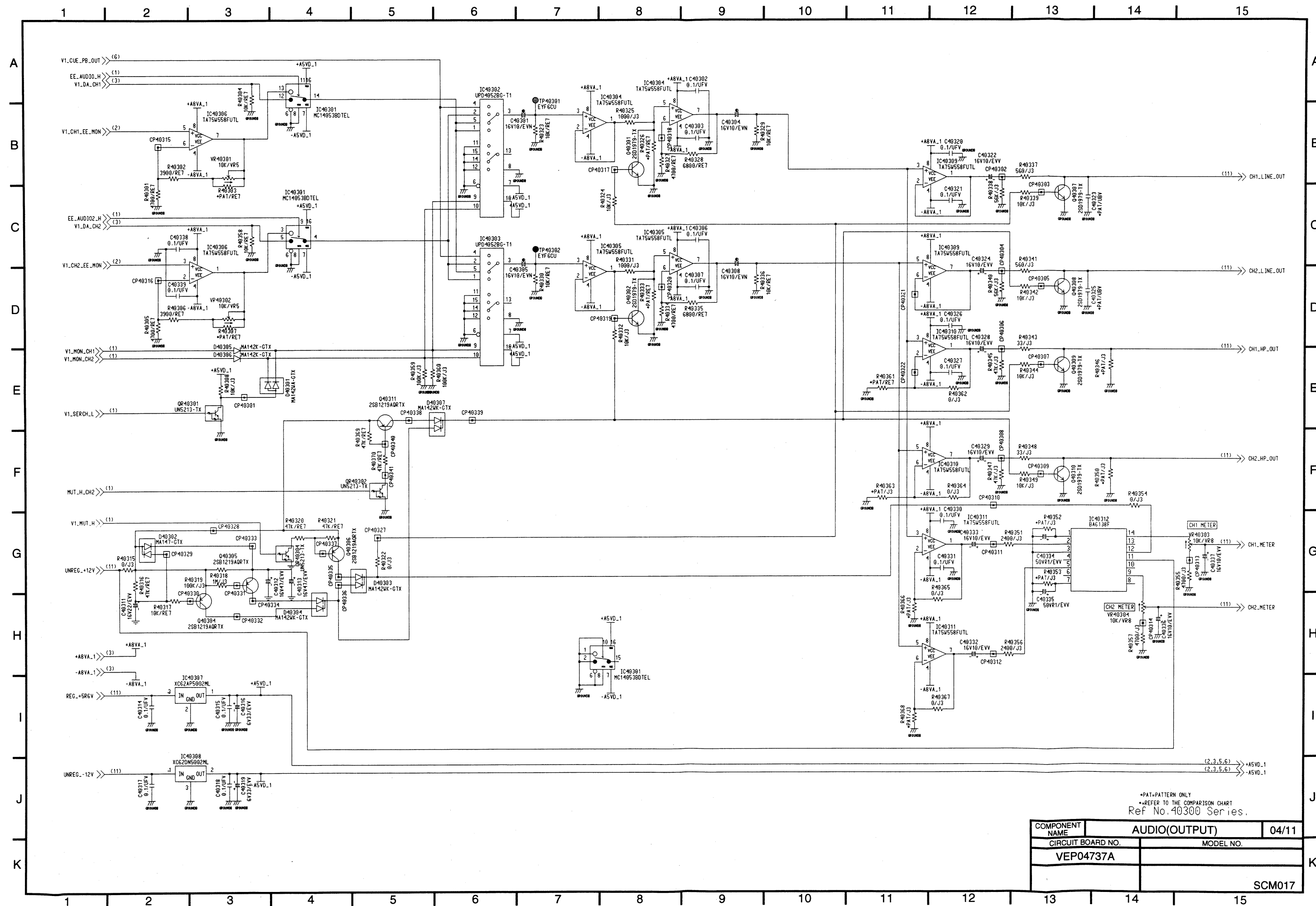


Ref No.40500 Series.

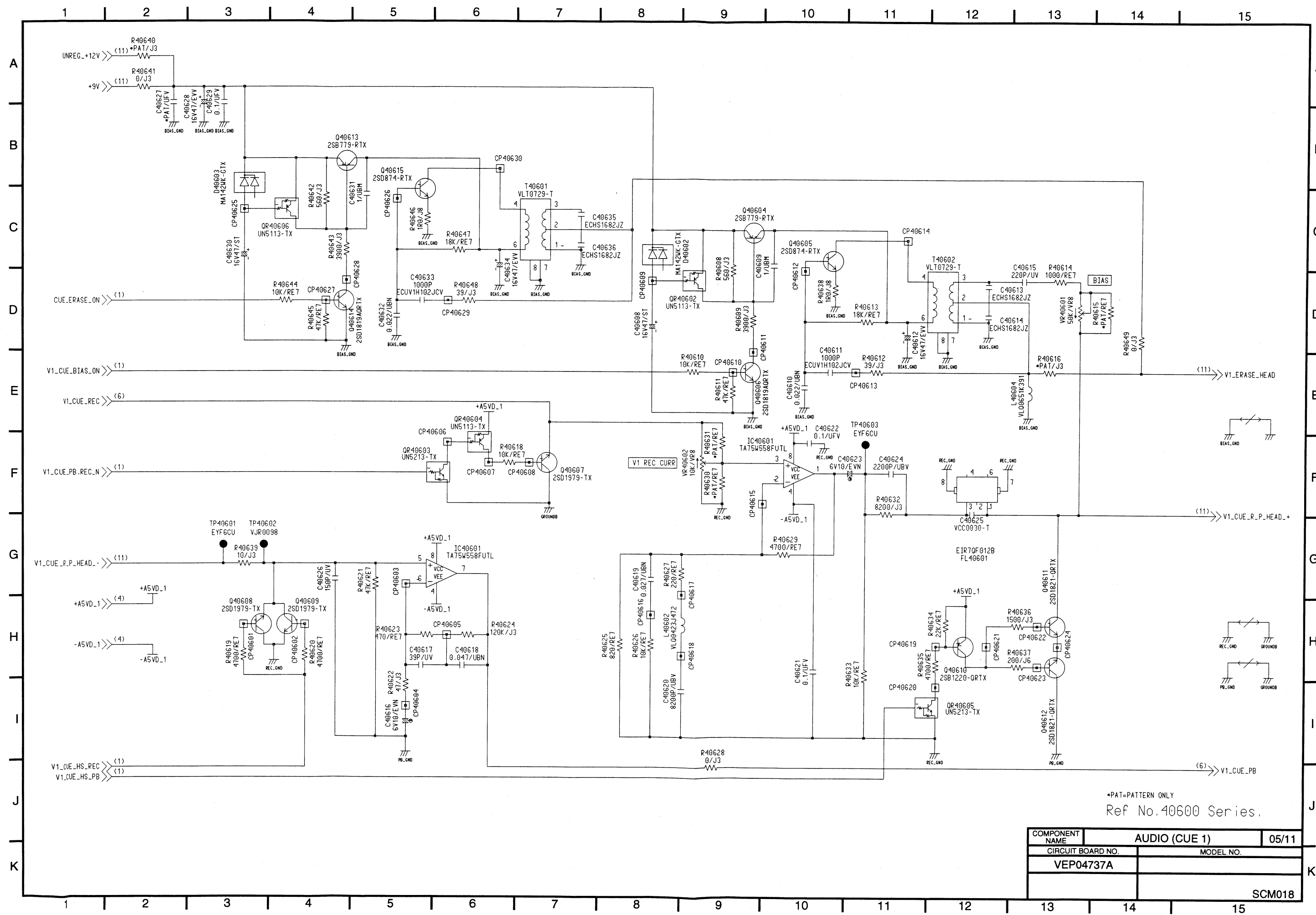
COMPONENT NAME	AUDIO (CONTROL)	01/11
CIRCUIT BOARD NO.	MODEL NO.	
VEP04737A		
		SCM014



*PAT= PATTERN ONLY
 **REFER TO THE COMPARISON CHART
 Ref No.40200 Series.

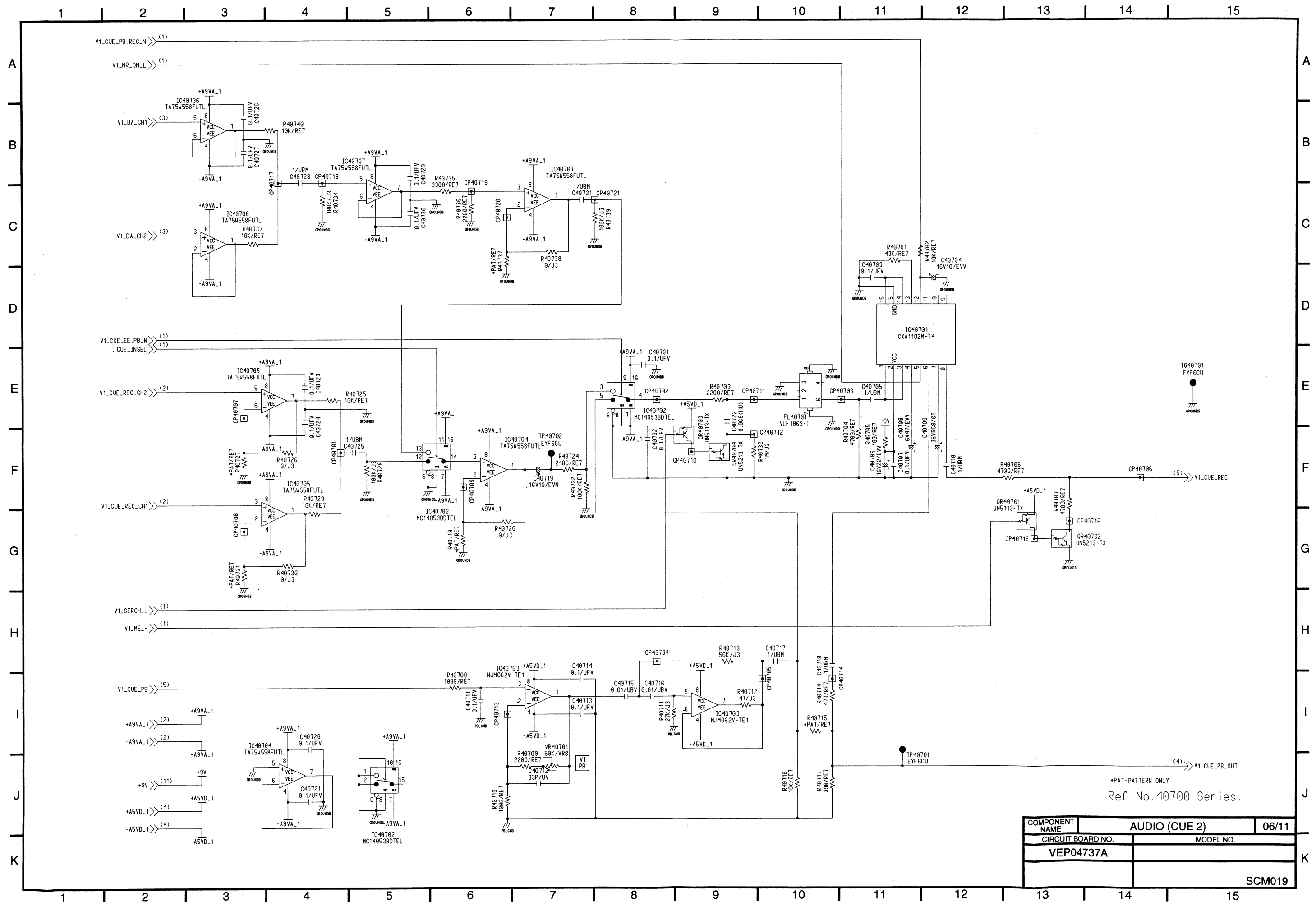


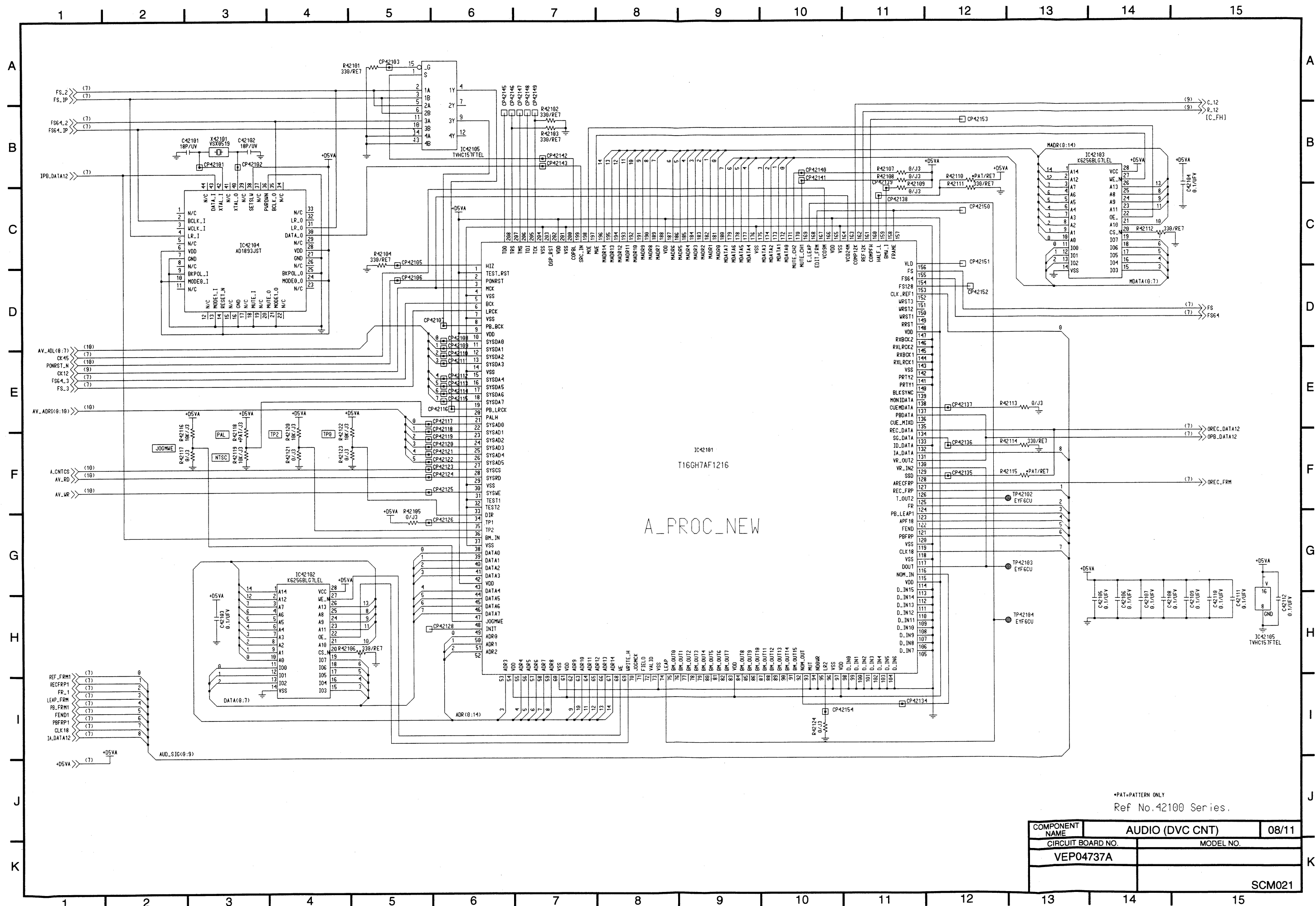
COMPONENT NAME	AUDIO(OUTPUT)	04/11
CIRCUIT BOARD NO.	MODEL NO.	
VEP04737A		
		SCM017

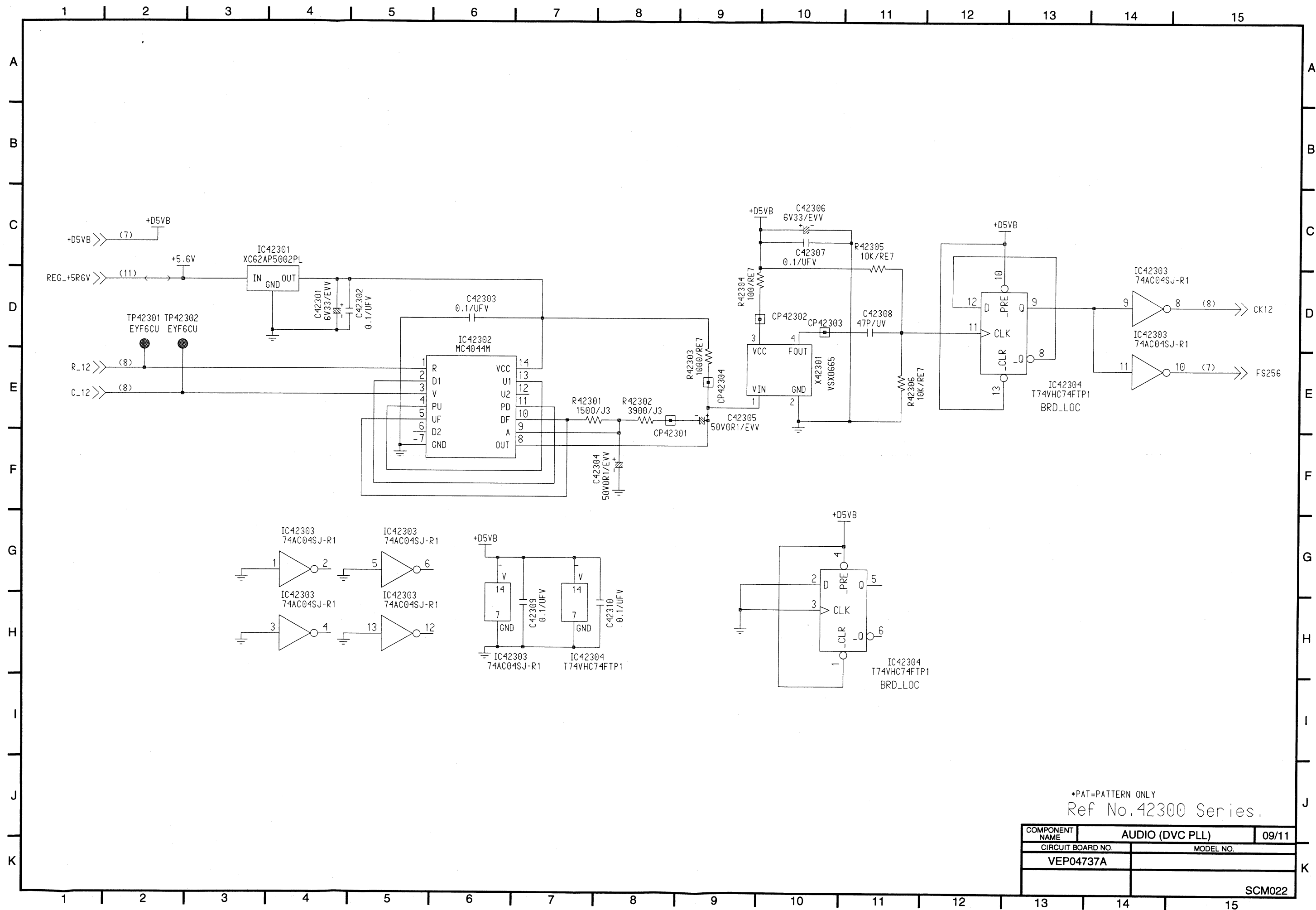


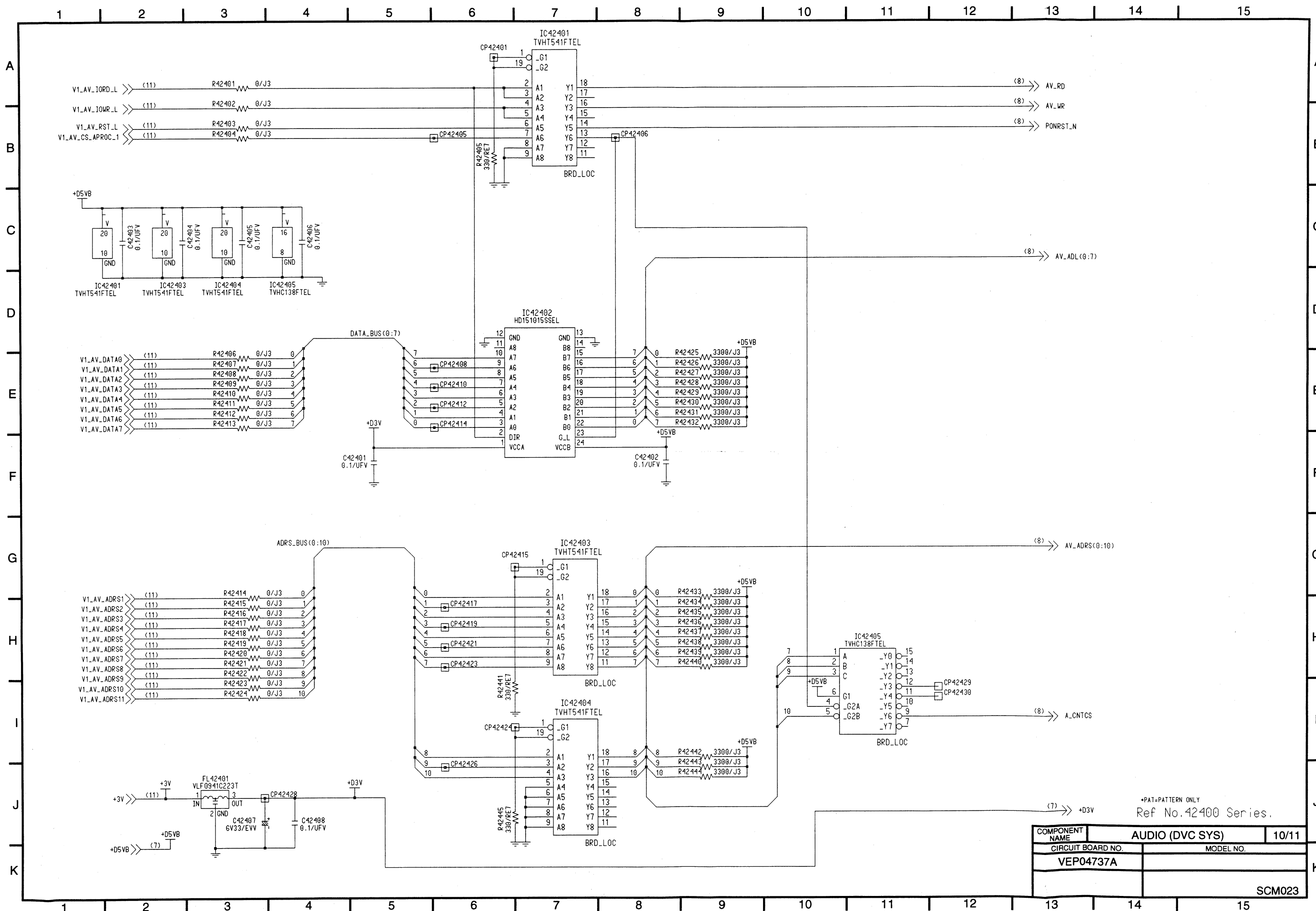
*PAT=PATTERN ONLY
Ref No.40600 Series.

COMPONENT NAME	AUDIO (CUE 1)	05/11
CIRCUIT BOARD NO.	MODEL NO.	
VEP04737A		
		SCM018

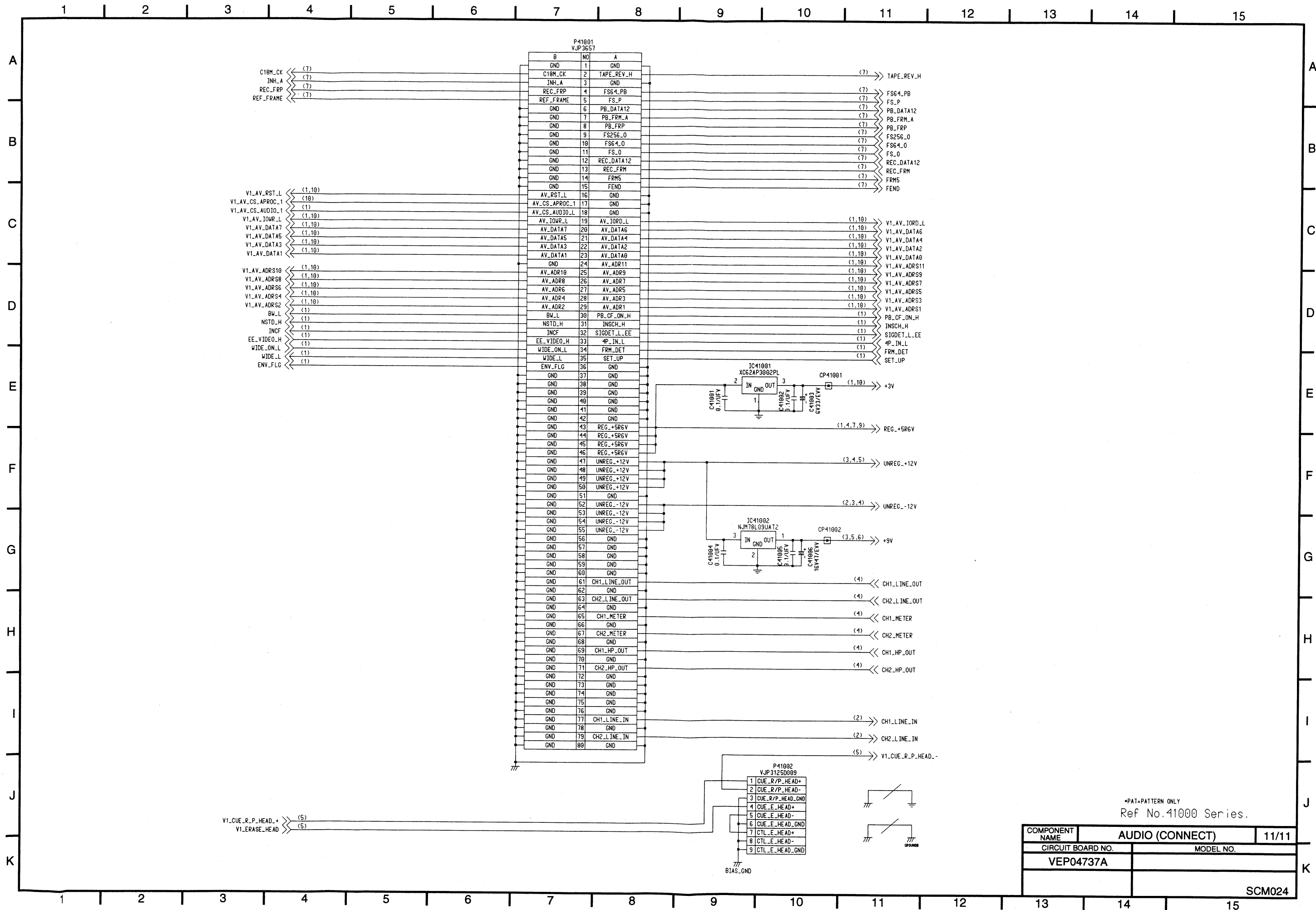






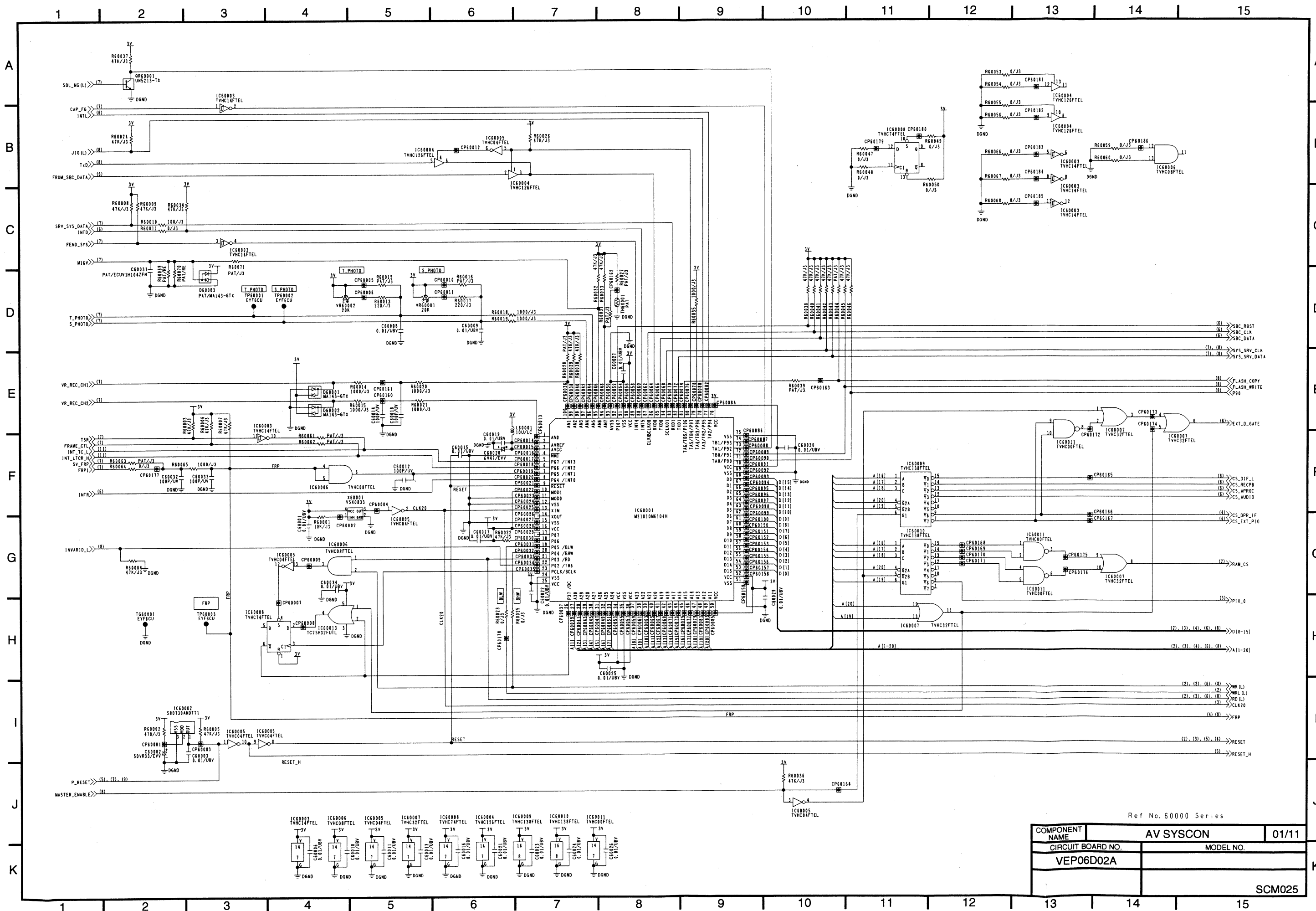


*PAT= PATTERN ONLY
Ref No.42400 Series.

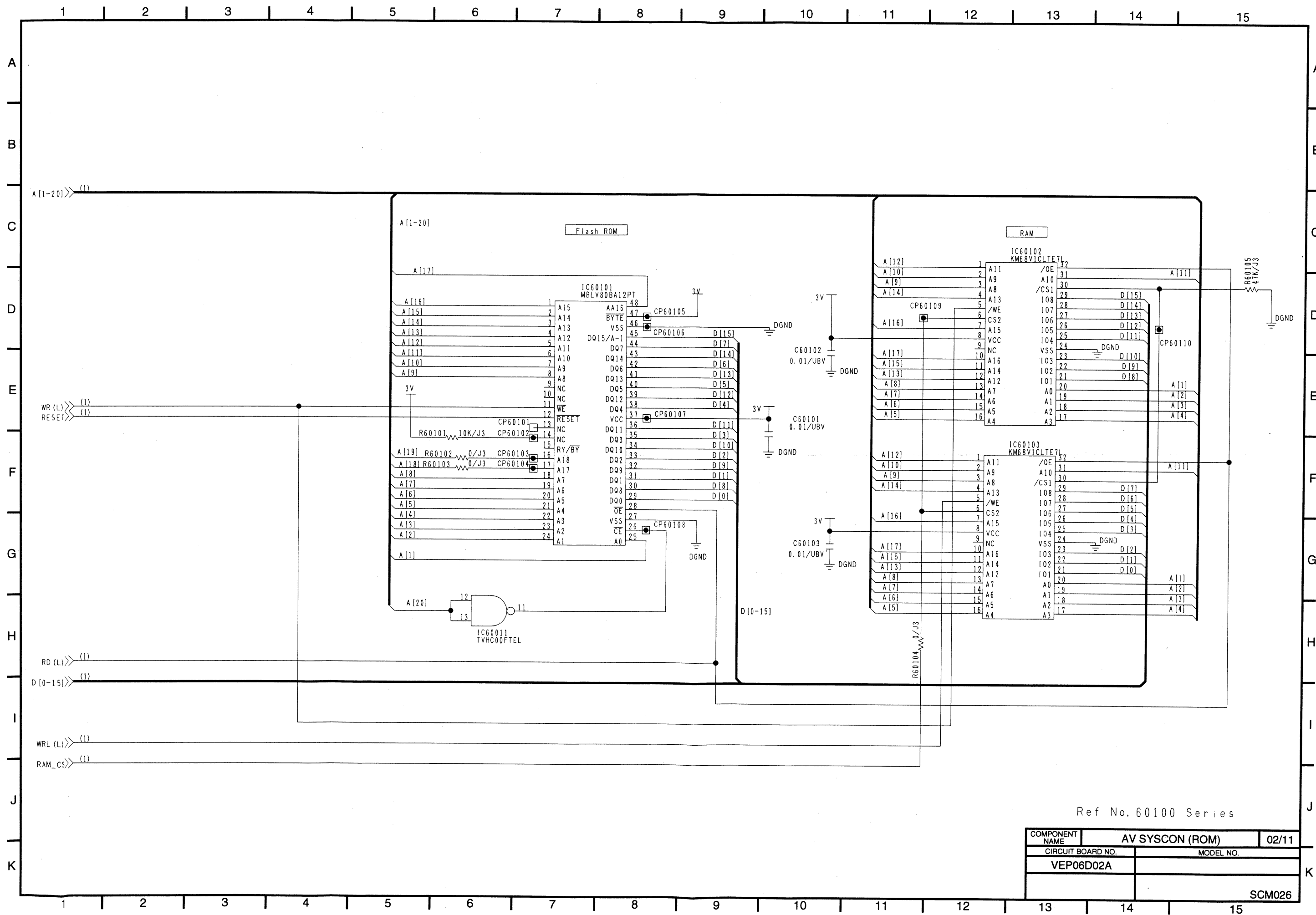


*PAT=Pattern Only
Ref No.41000 Series.

COMPONENT NAME	AUDIO (CONNECT)	11/11
CIRCUIT BOARD NO.	MODEL NO.	
VEP04737A		
		SCM024

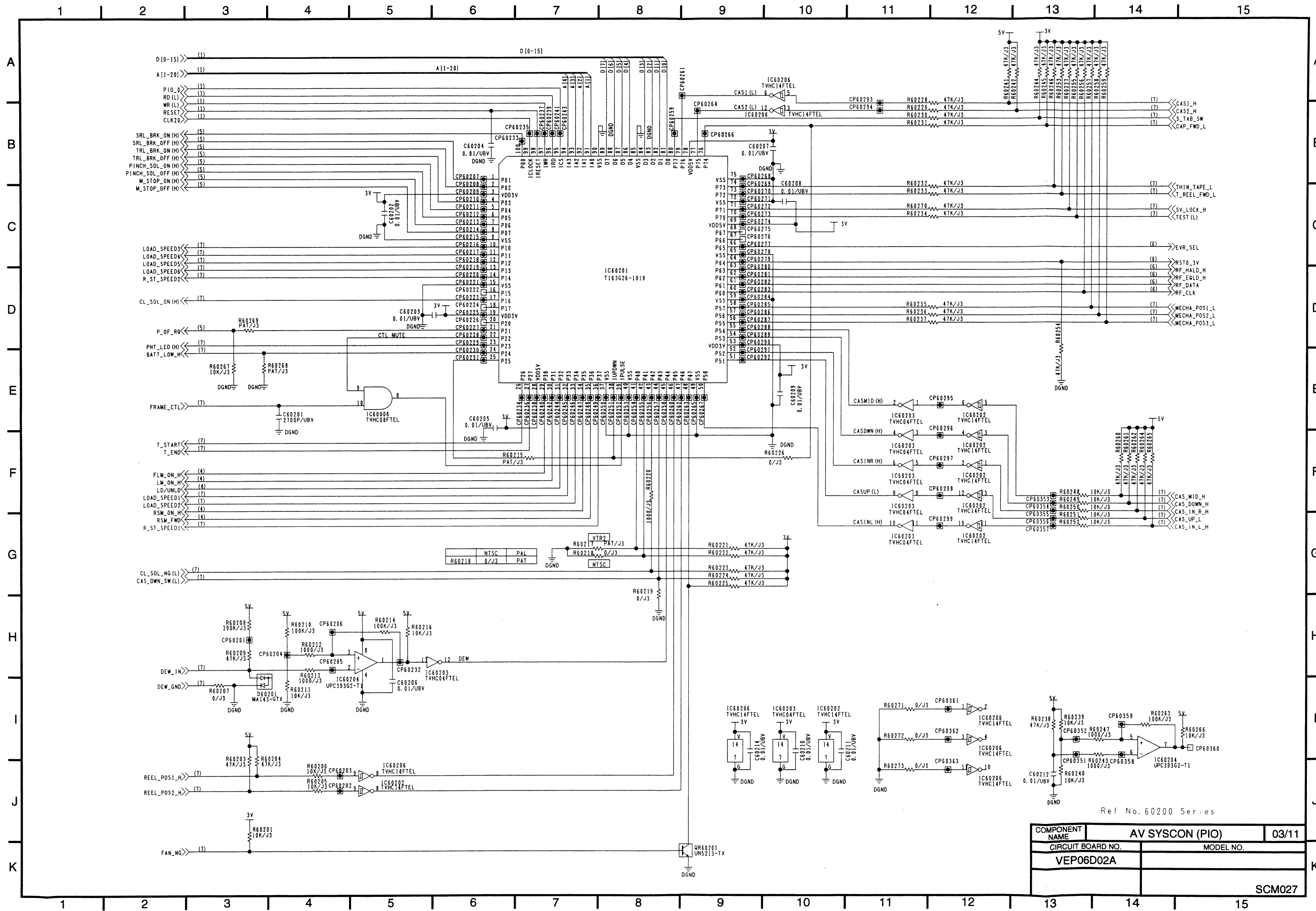


Ref No. 60000 Series		
COMPONENT NAME	AV SYSCON	01/11
CIRCUIT BOARD NO.	MODEL NO.	
VEP06D02A		
	SCM025	

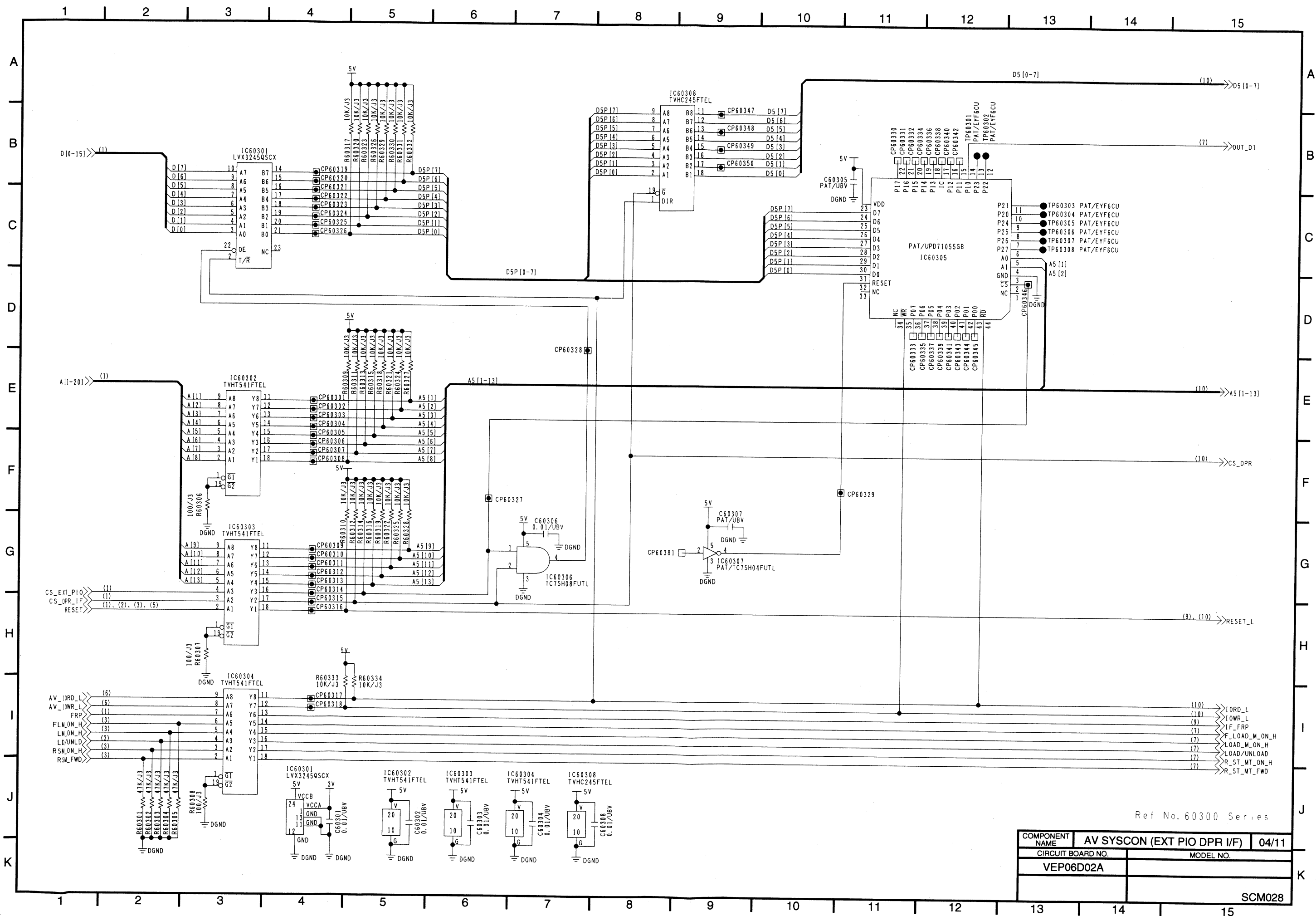


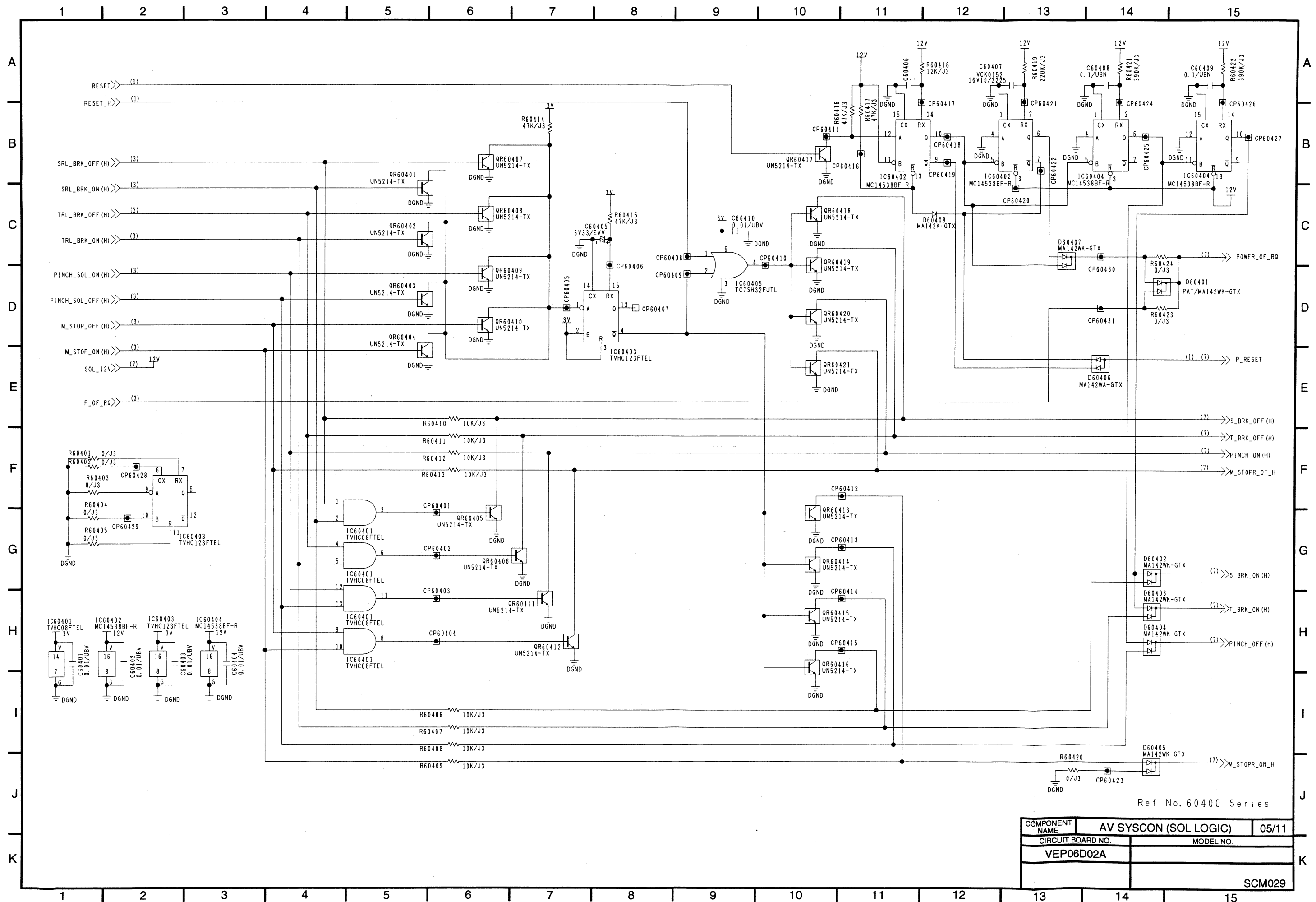
Ref No. 60100 Series

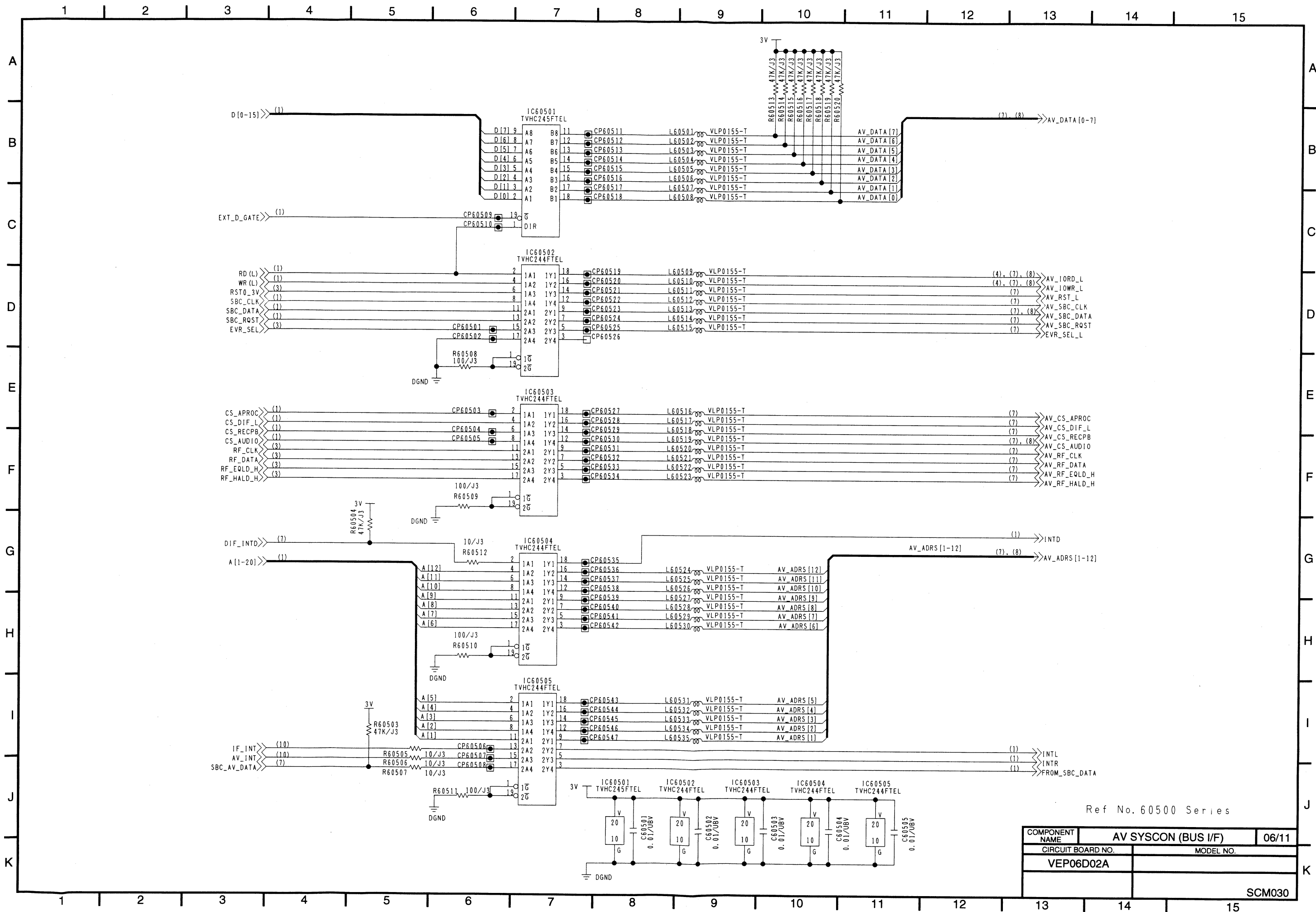
COMPONENT NAME	AV SYSCON (ROM)	02/11
CIRCUIT BOARD NO.	VEP06D02A	MODEL NO.
SCM026		

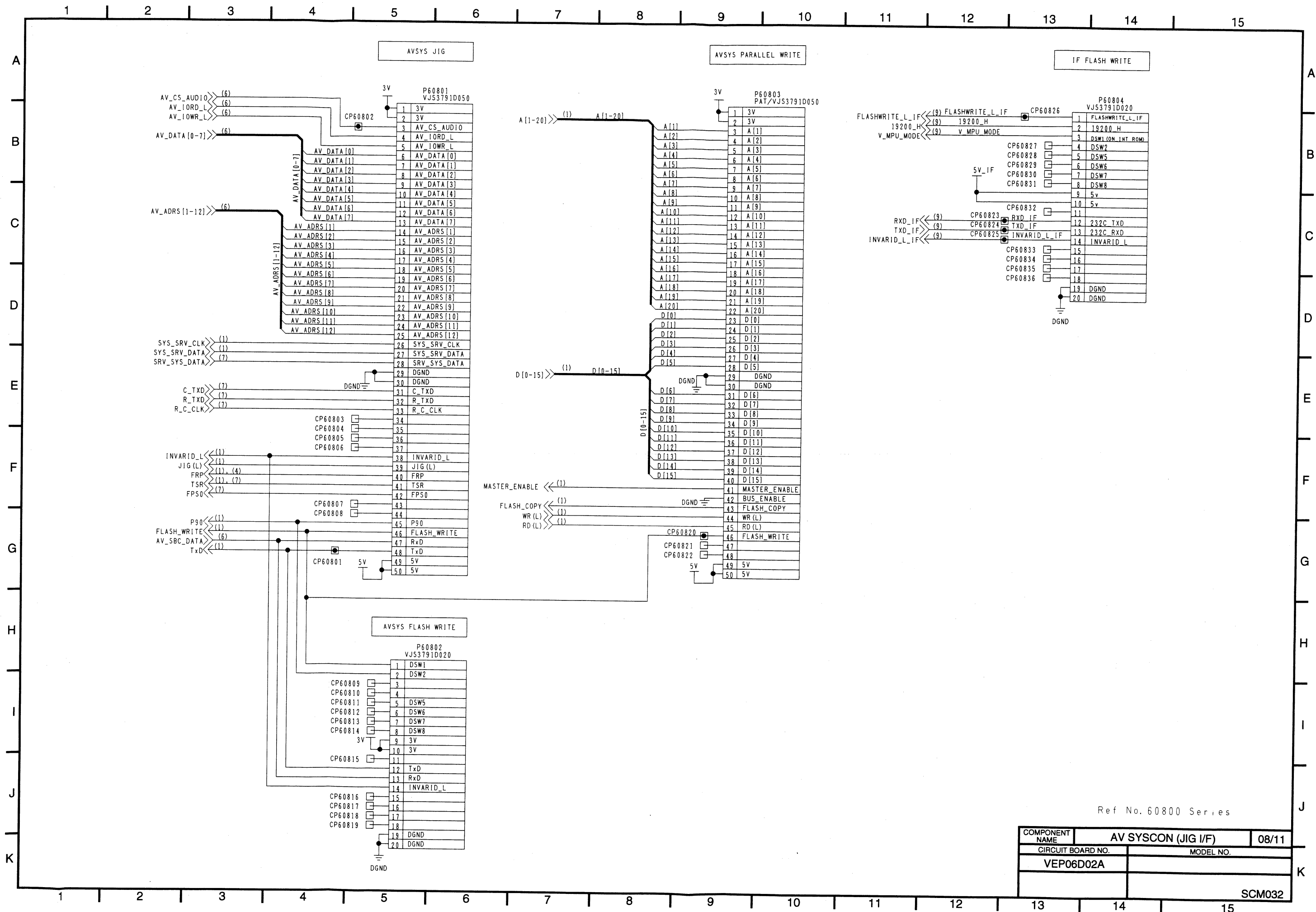


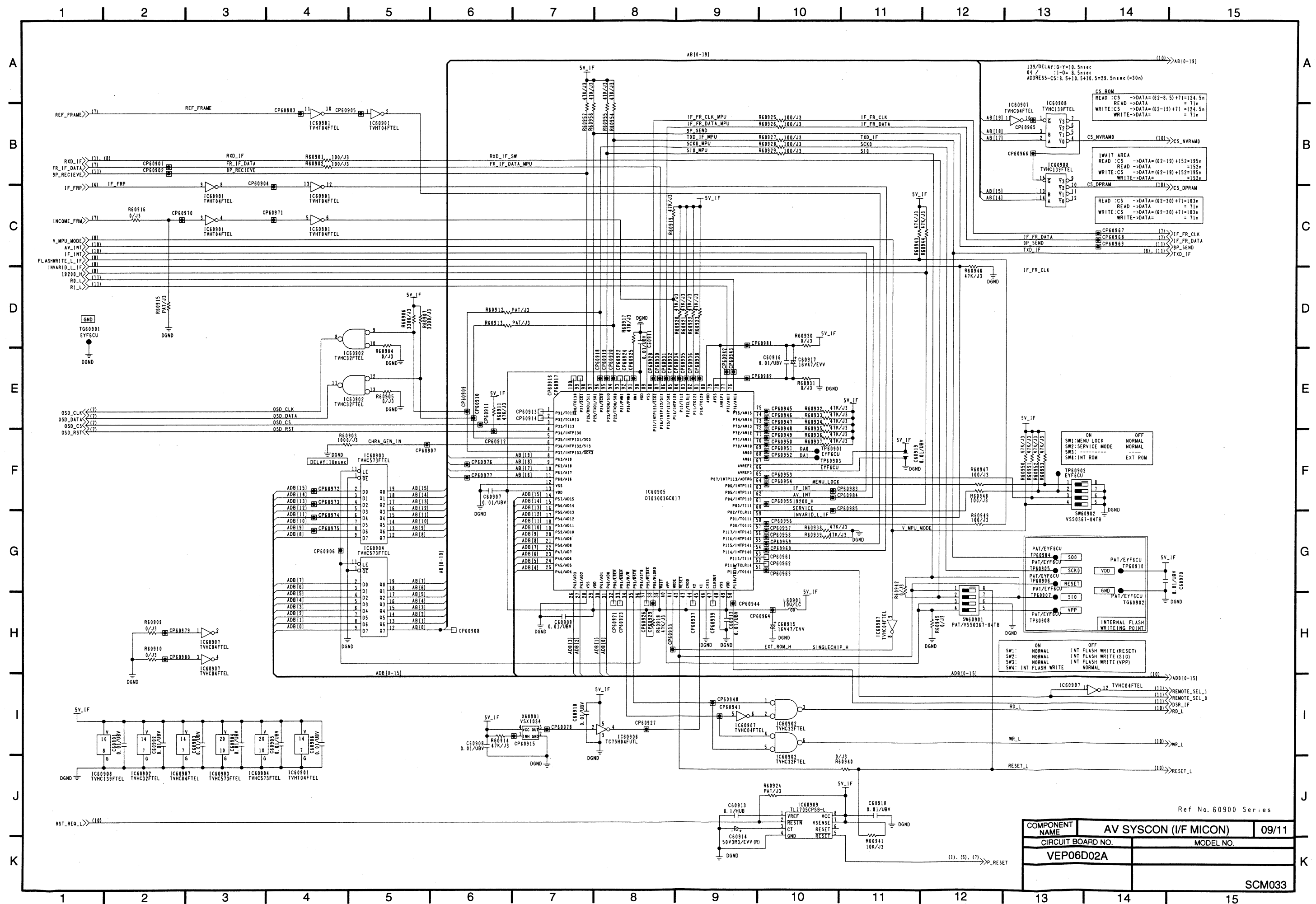
Ref No. 60200 Series	
COMPONENT NAME	AV SYSCON (PIO)
CIRCUIT BOARD NO.	03/11
VEP06D02A	MODEL NO.
SCM027	

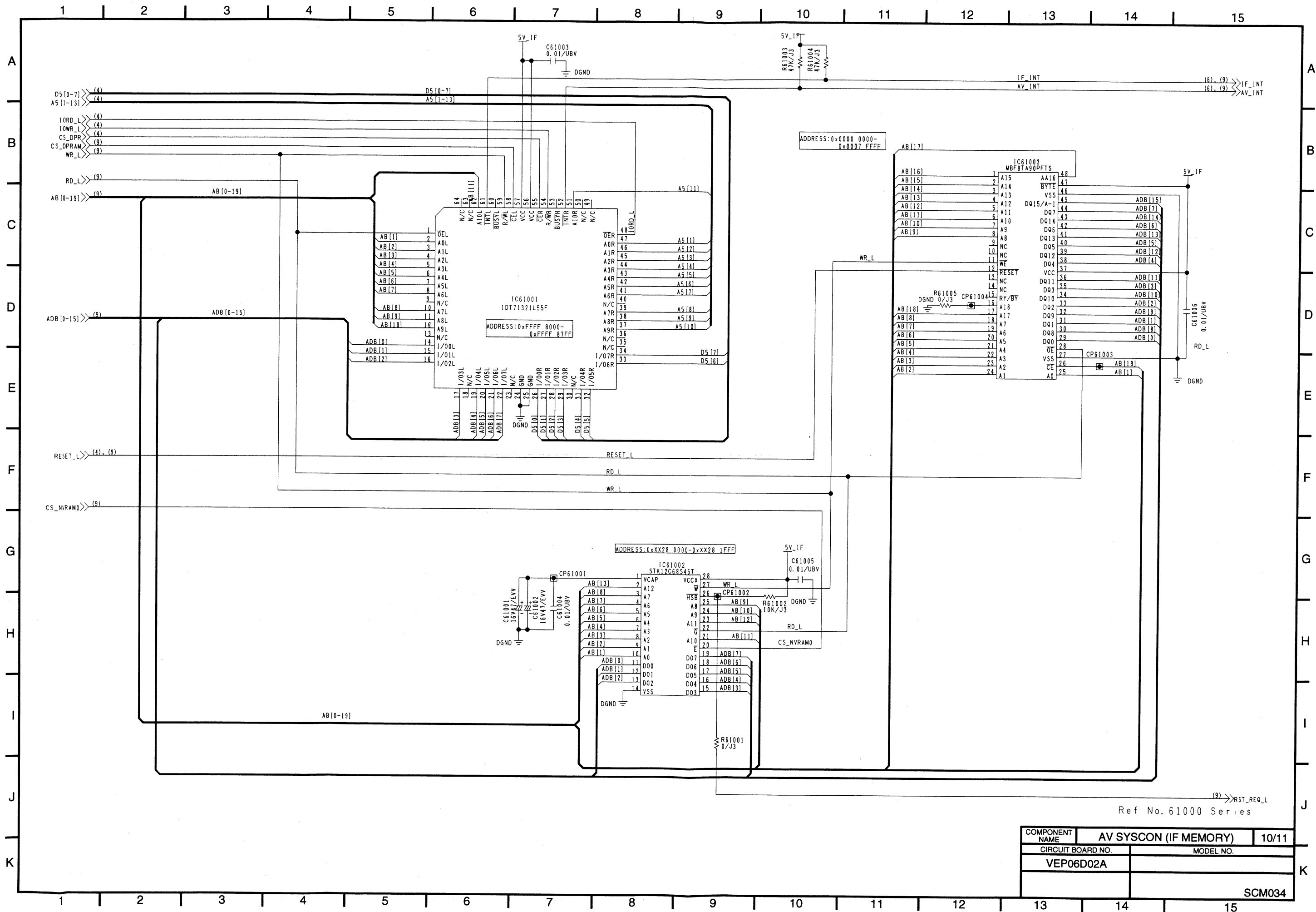


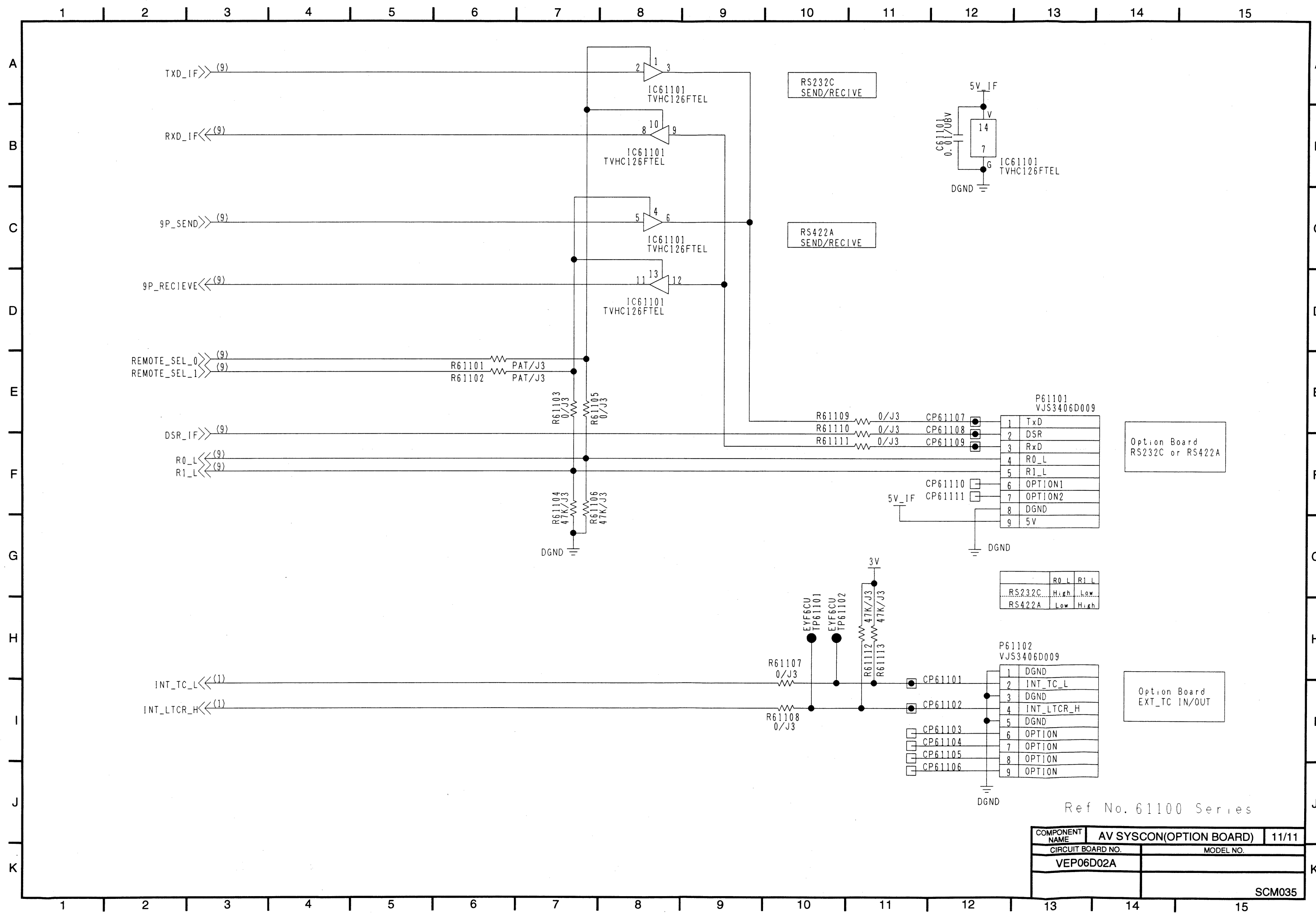






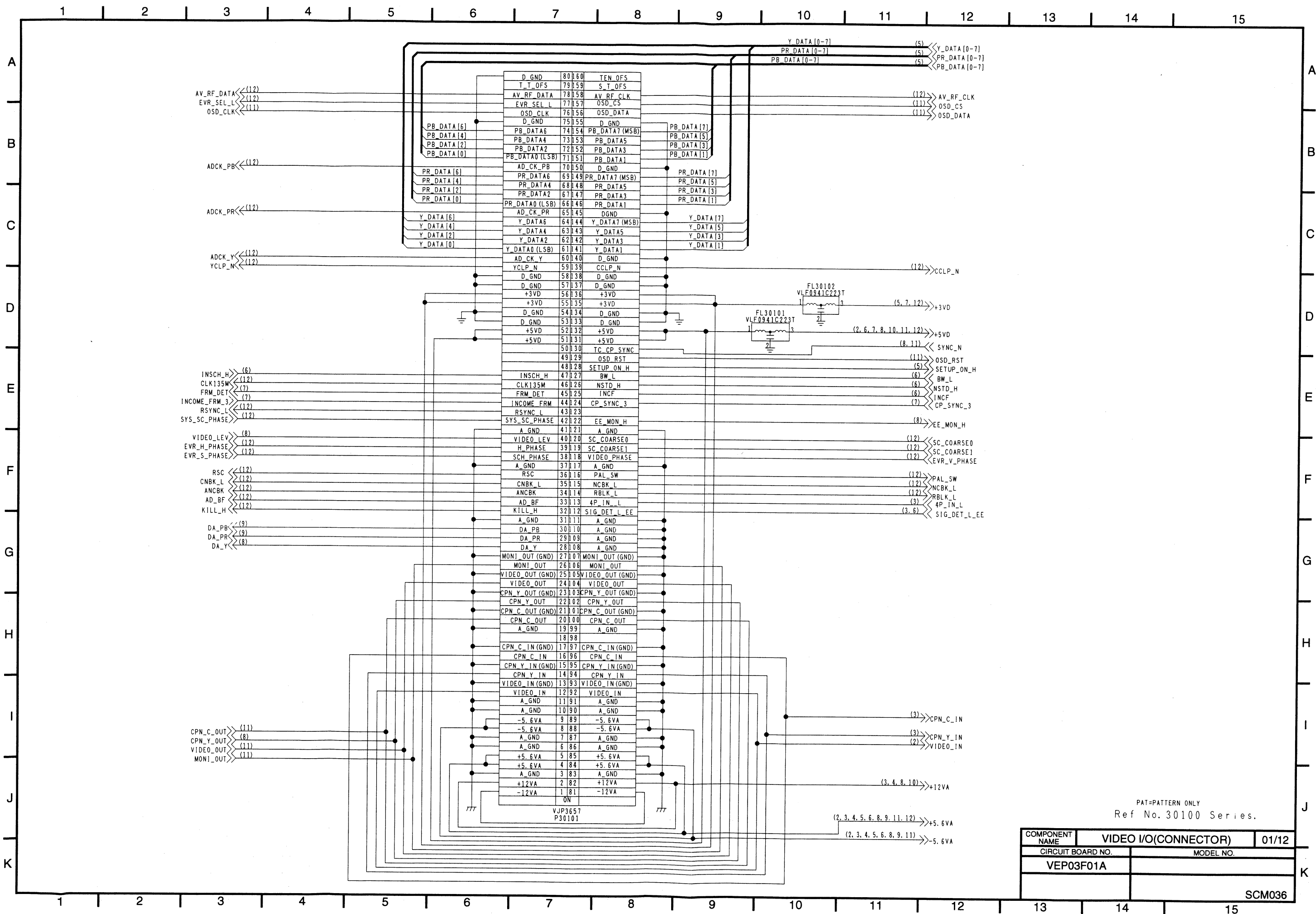






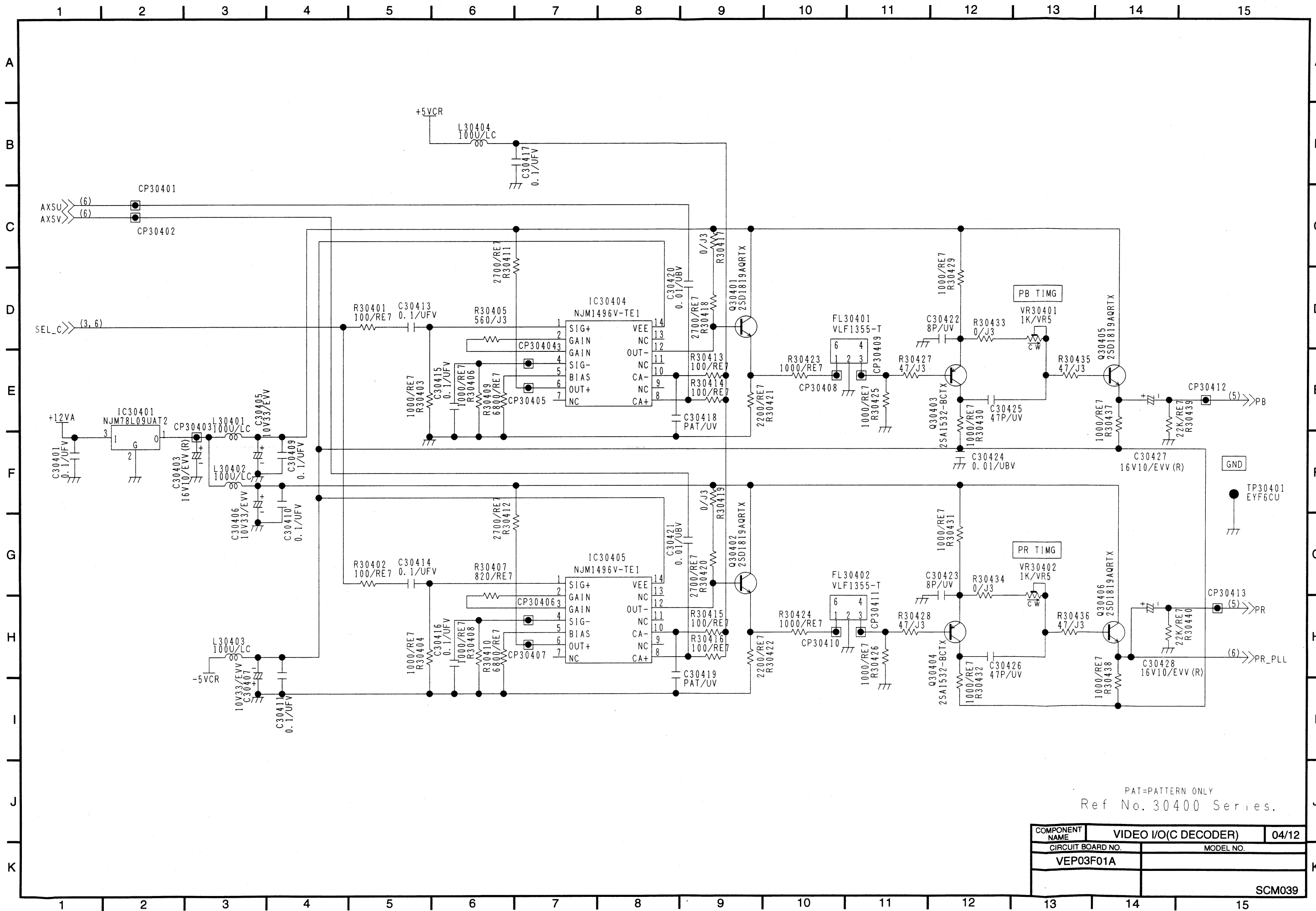
Ref No. 61100 Series

COMPONENT NAME	AV SYSCON(OPTION BOARD)	11/11
CIRCUIT BOARD NO.	MODEL NO.	
VEP06D02A		
		SCM035



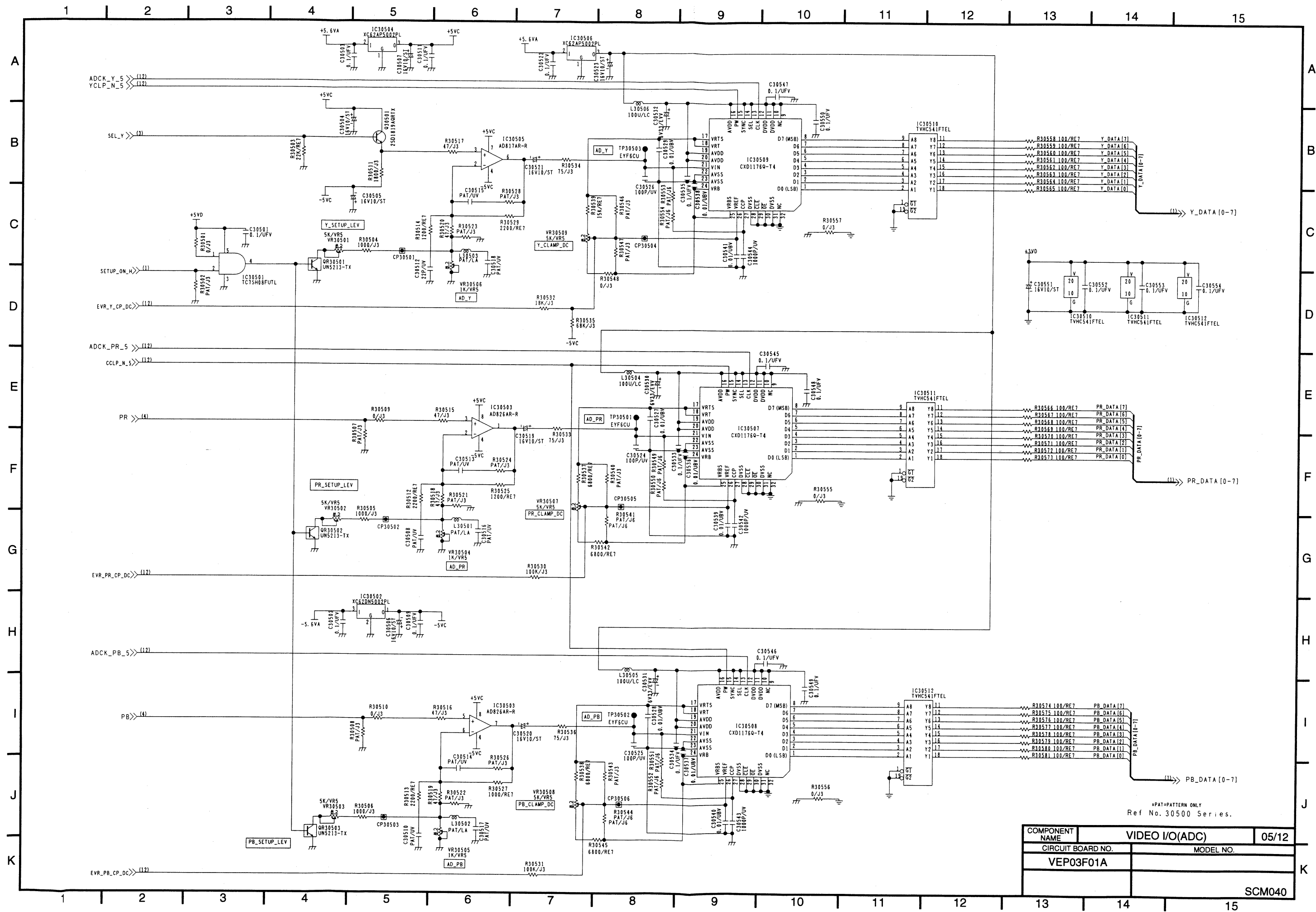
PAT=PATTERN ONLY
Ref No. 30100 Series.

COMPONENT NAME	VIDEO I/O(CONNECTOR)	01/12
CIRCUIT BOARD NO.	MODEL NO.	
VEP03F01A		
	SCM036	

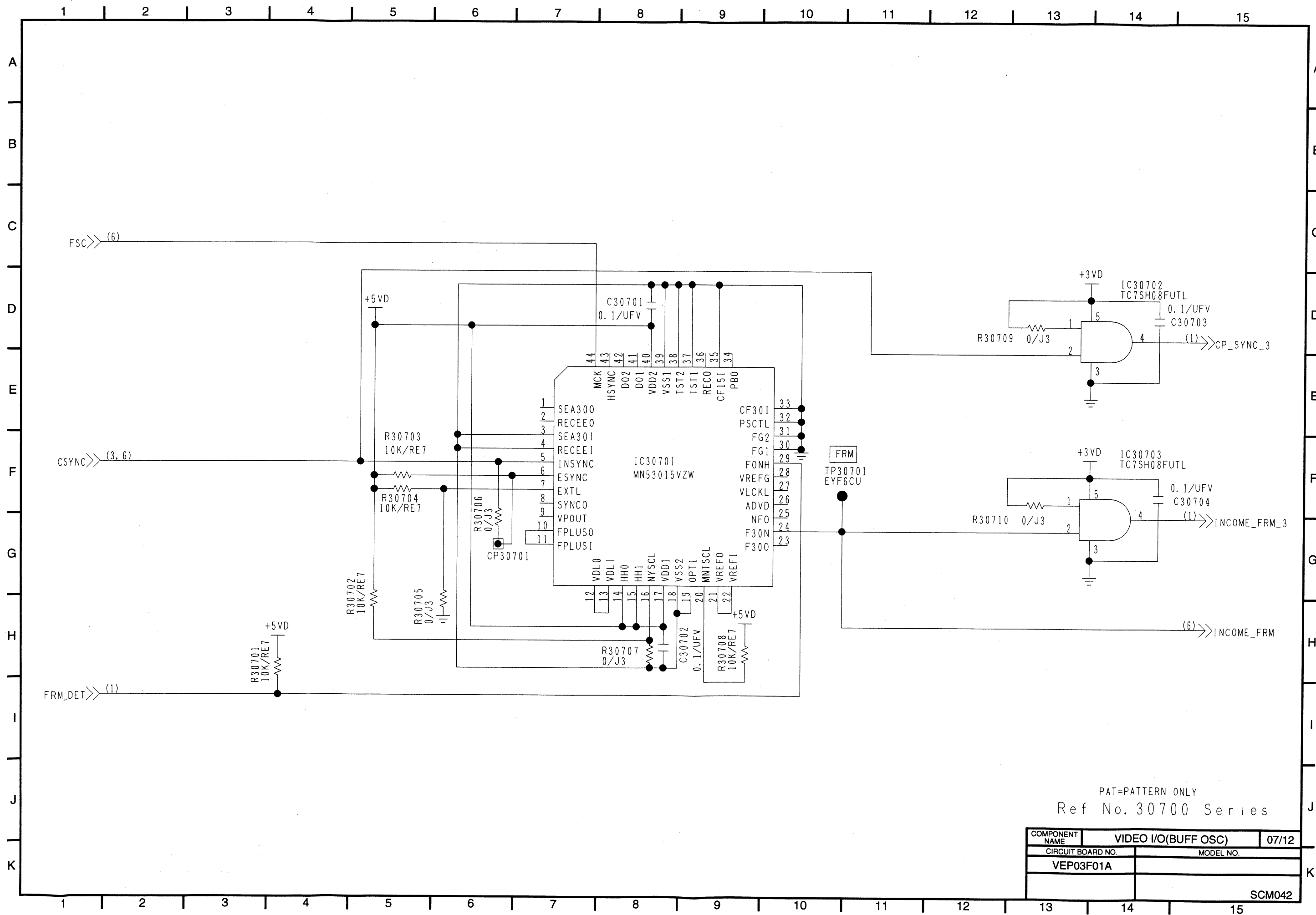


PAT=PATTERN ONLY
Ref No. 30400 Series.

COMPONENT NAME	VIDEO I/O(C DECODER)	04/12
CIRCUIT BOARD NO.	MODEL NO.	
VEP03F01A		
		SCM039

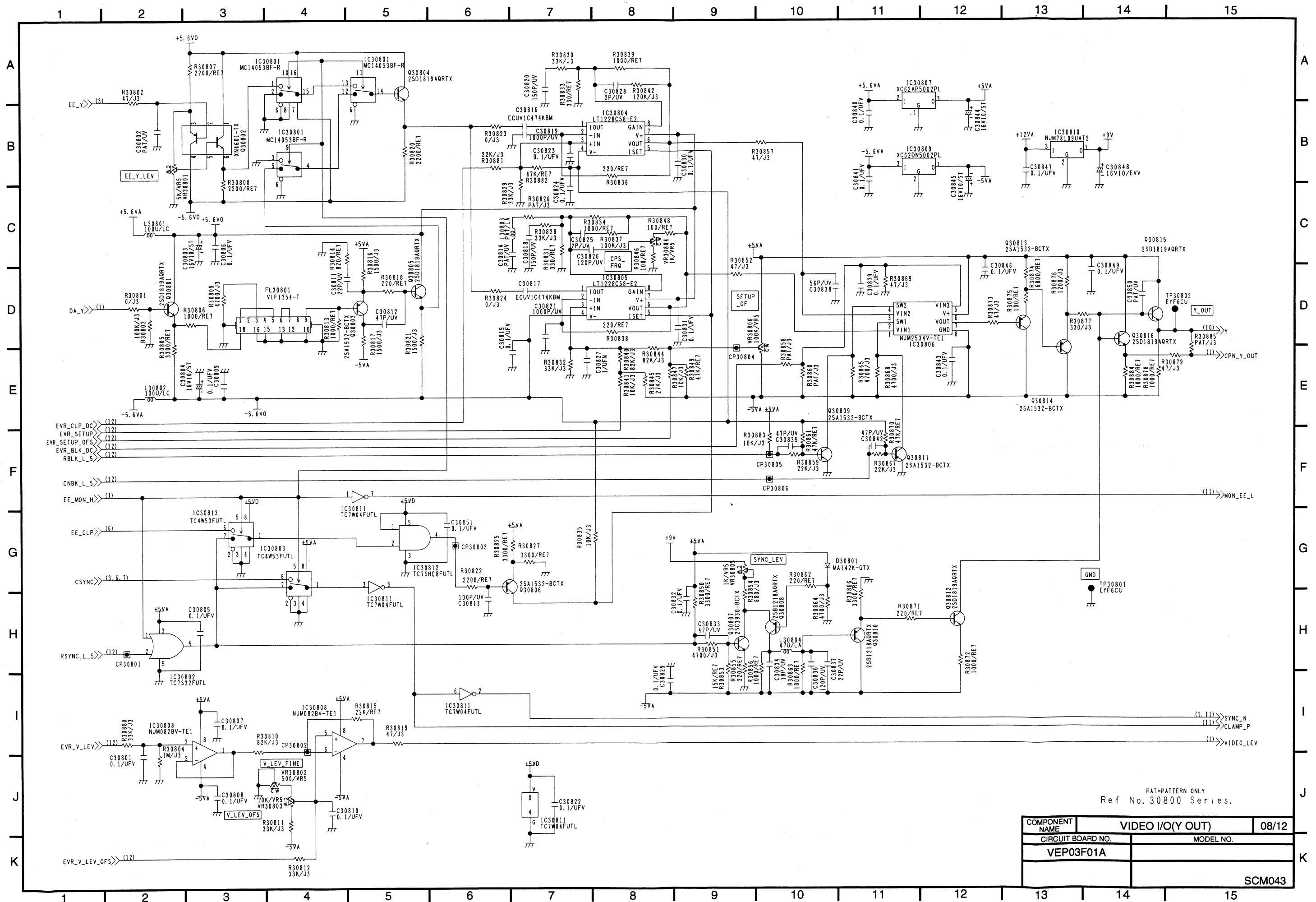


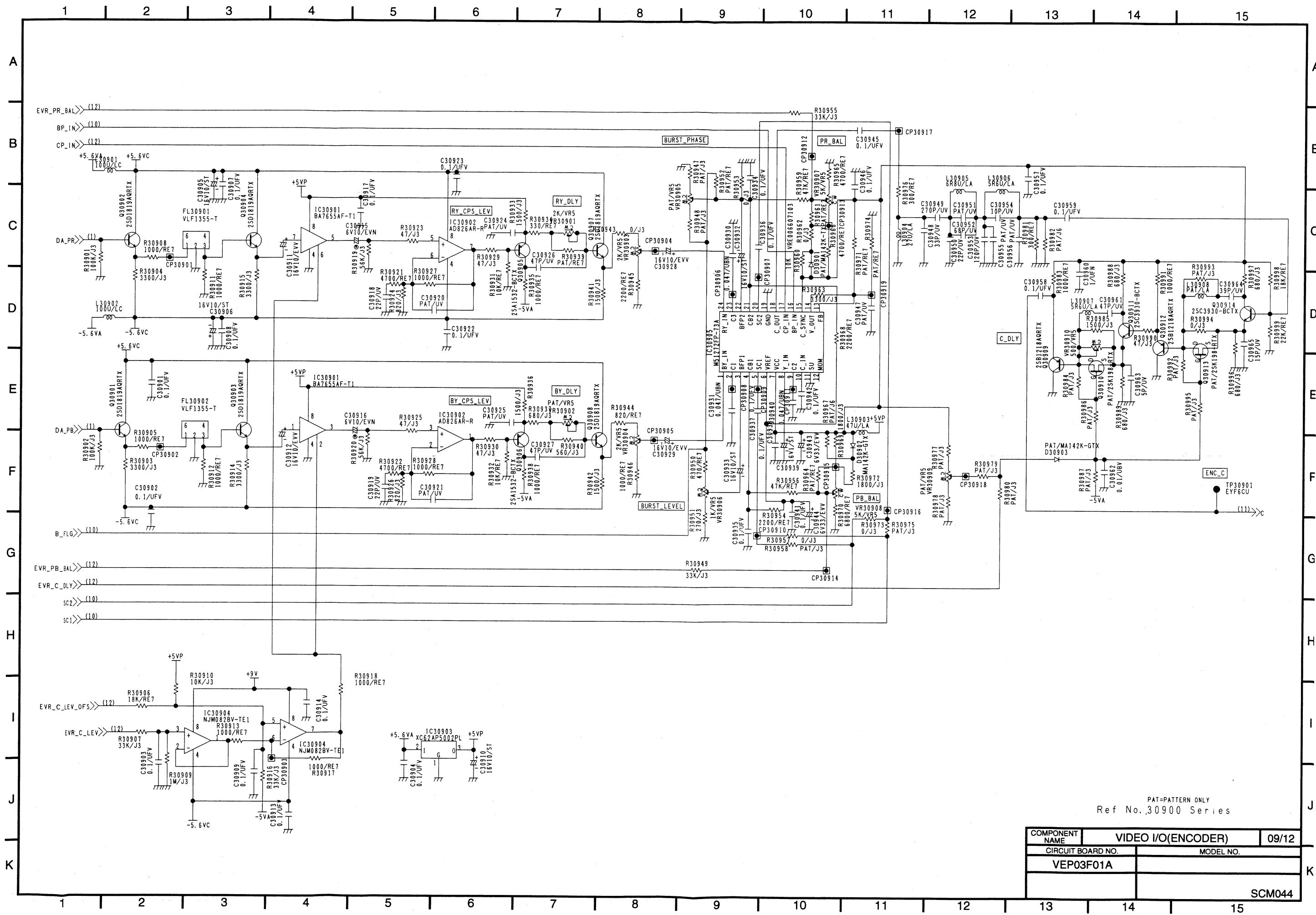
COMPONENT NAME	VIDEO I/O(ADC)	05/12
CIRCUIT BOARD NO.	VEP03F01A	MODEL NO.
		SCM040



PAT=PATTERN ONLY
Ref No. 30700 Series

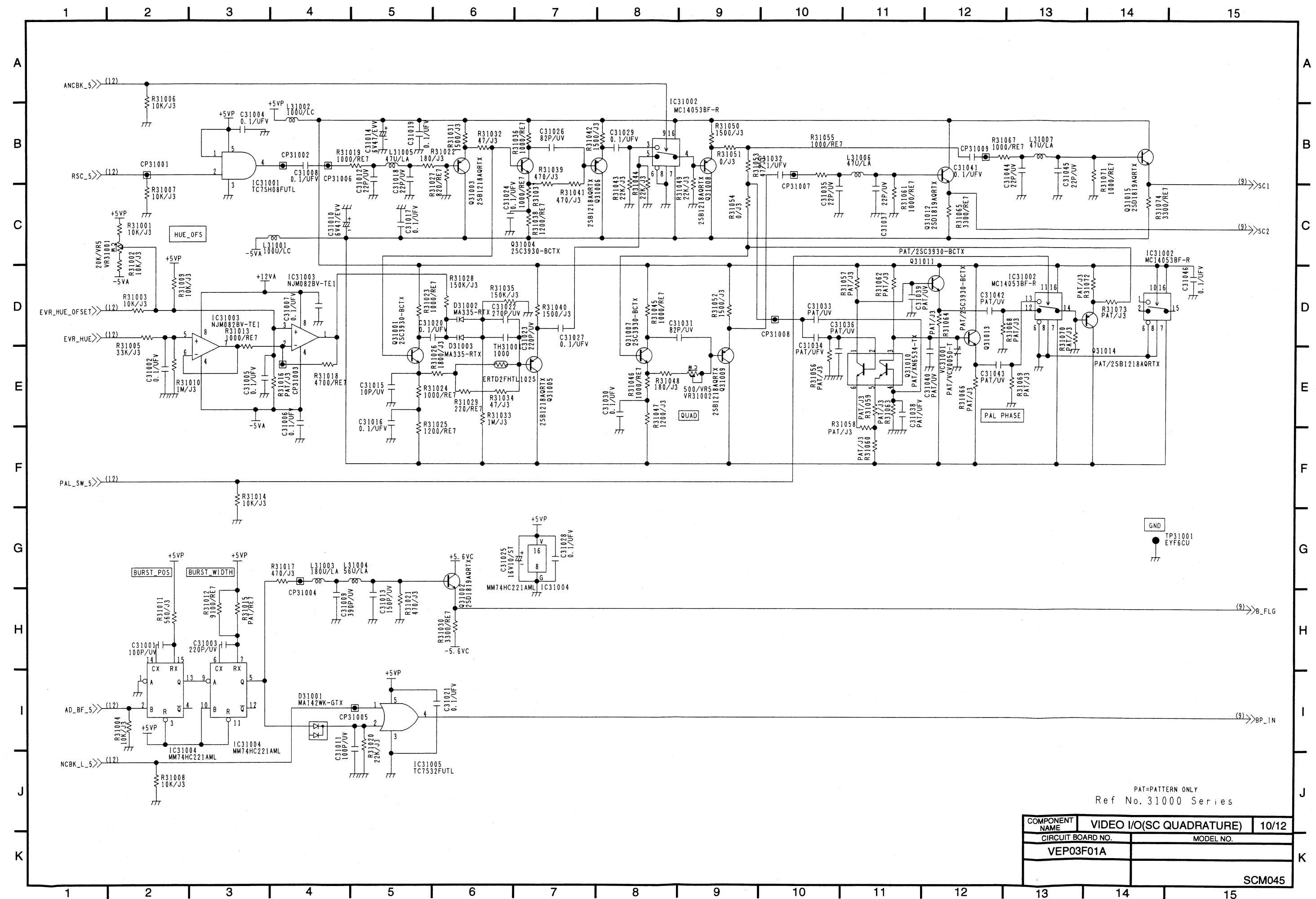
COMPONENT NAME	VIDEO I/O(BUFF OSC)	07/12
CIRCUIT BOARD NO.	MODEL NO.	
VEP03F01A		
		SCM042

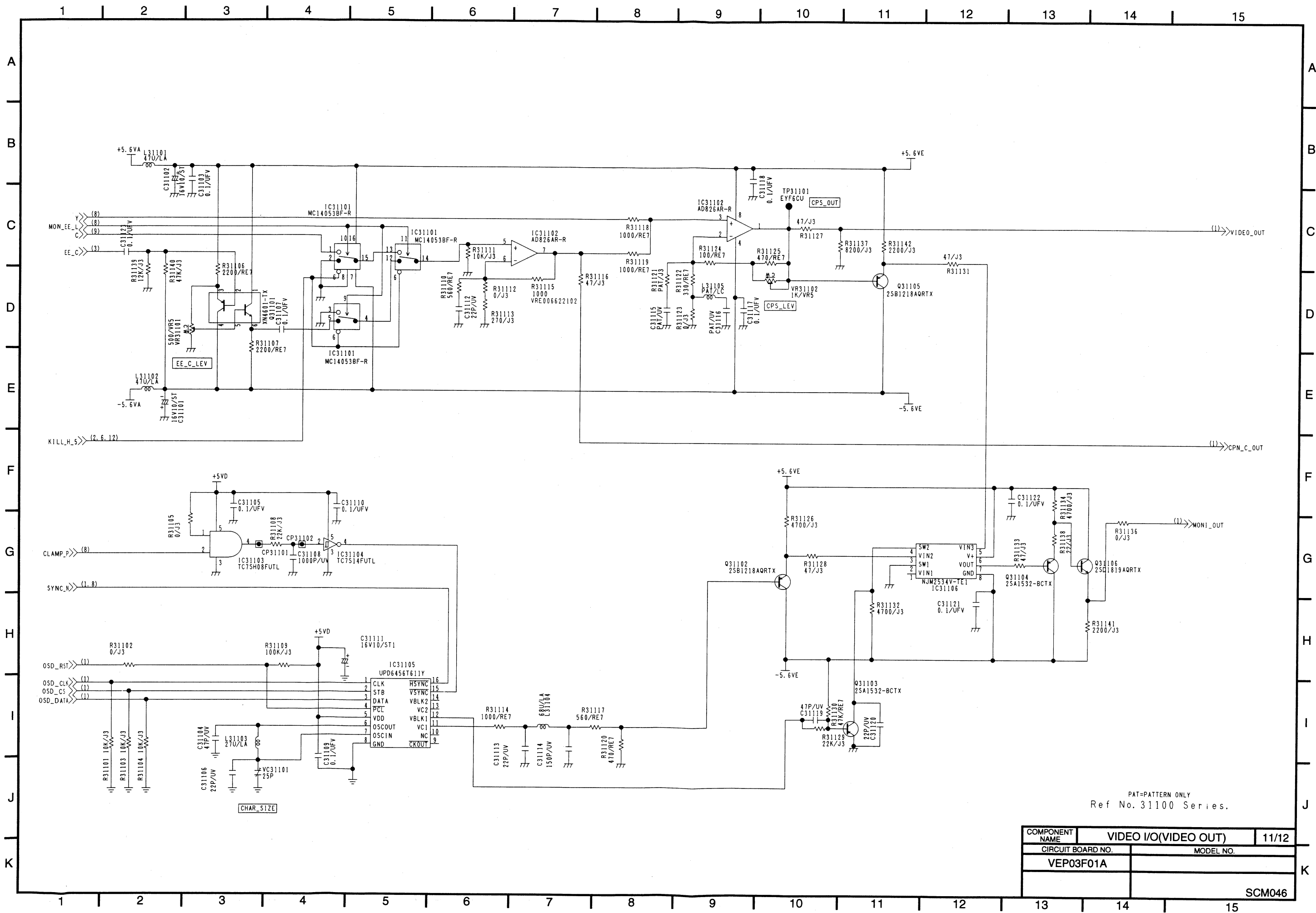




PAT-PATTERN ONLY
Ref No.30900 Series

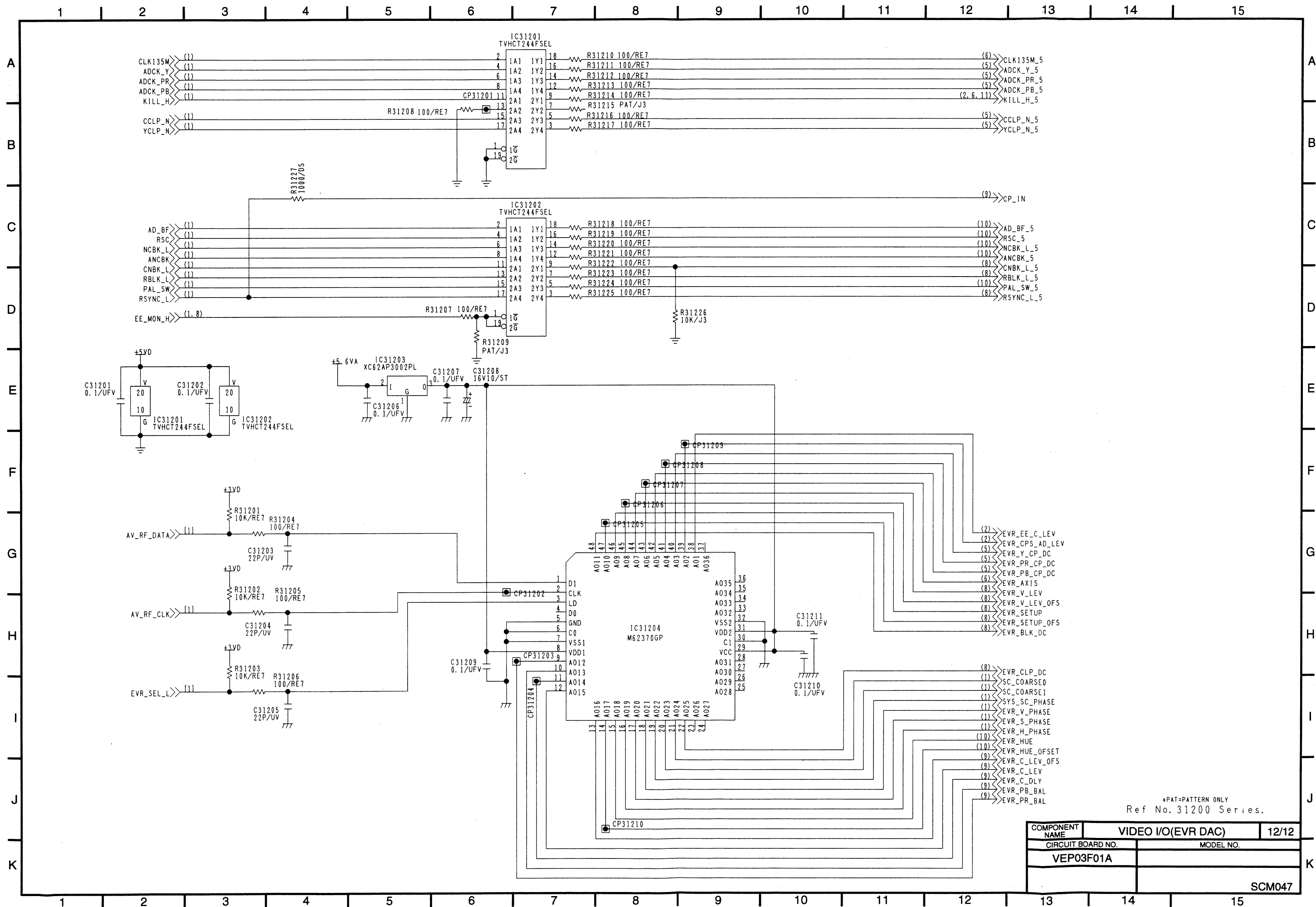
COMPONENT NAME	VIDEO I/O(ENCODER)	09/12
CIRCUIT BOARD NO.	MODEL NO.	
VEP03F01A		
		SCM044

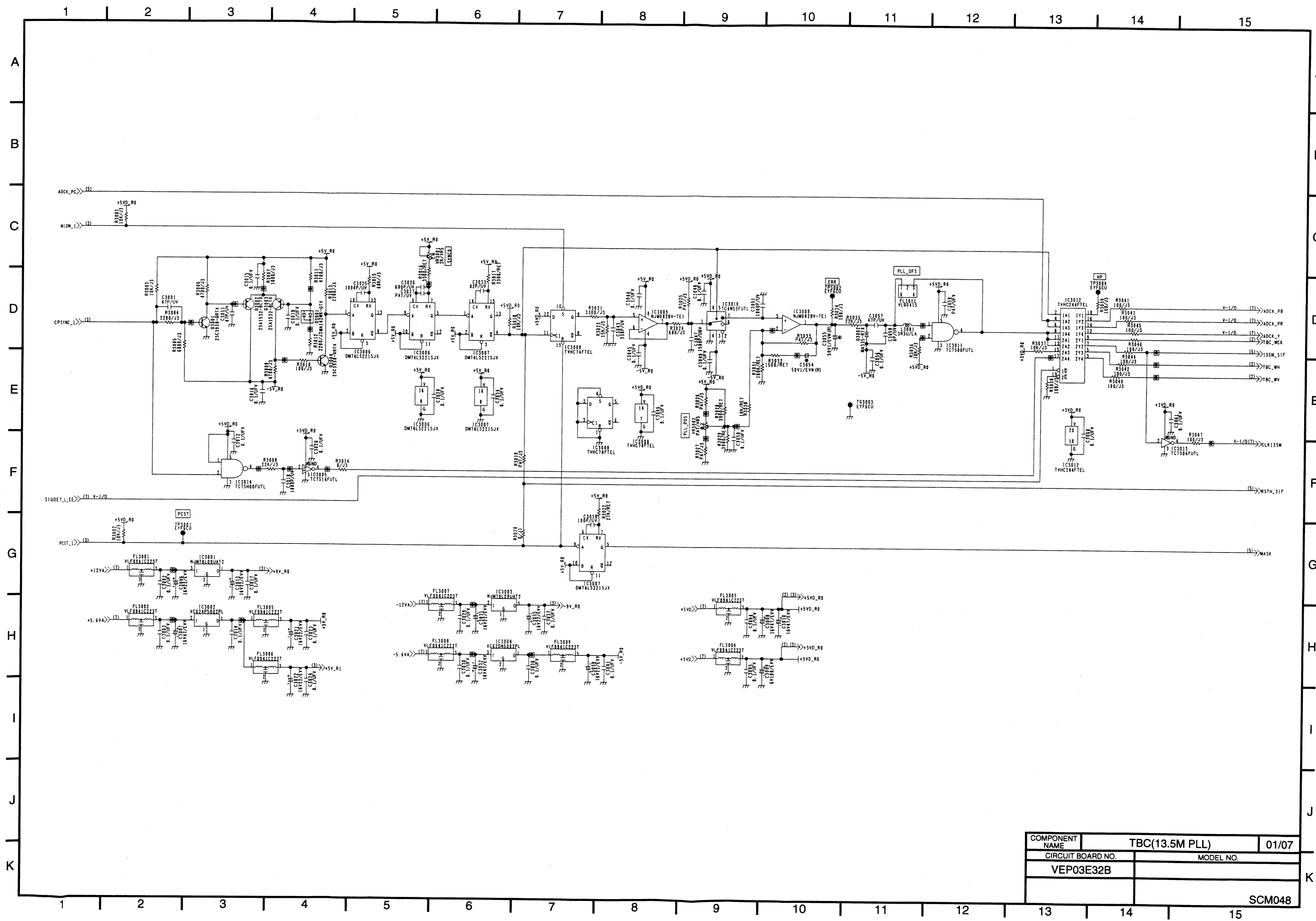




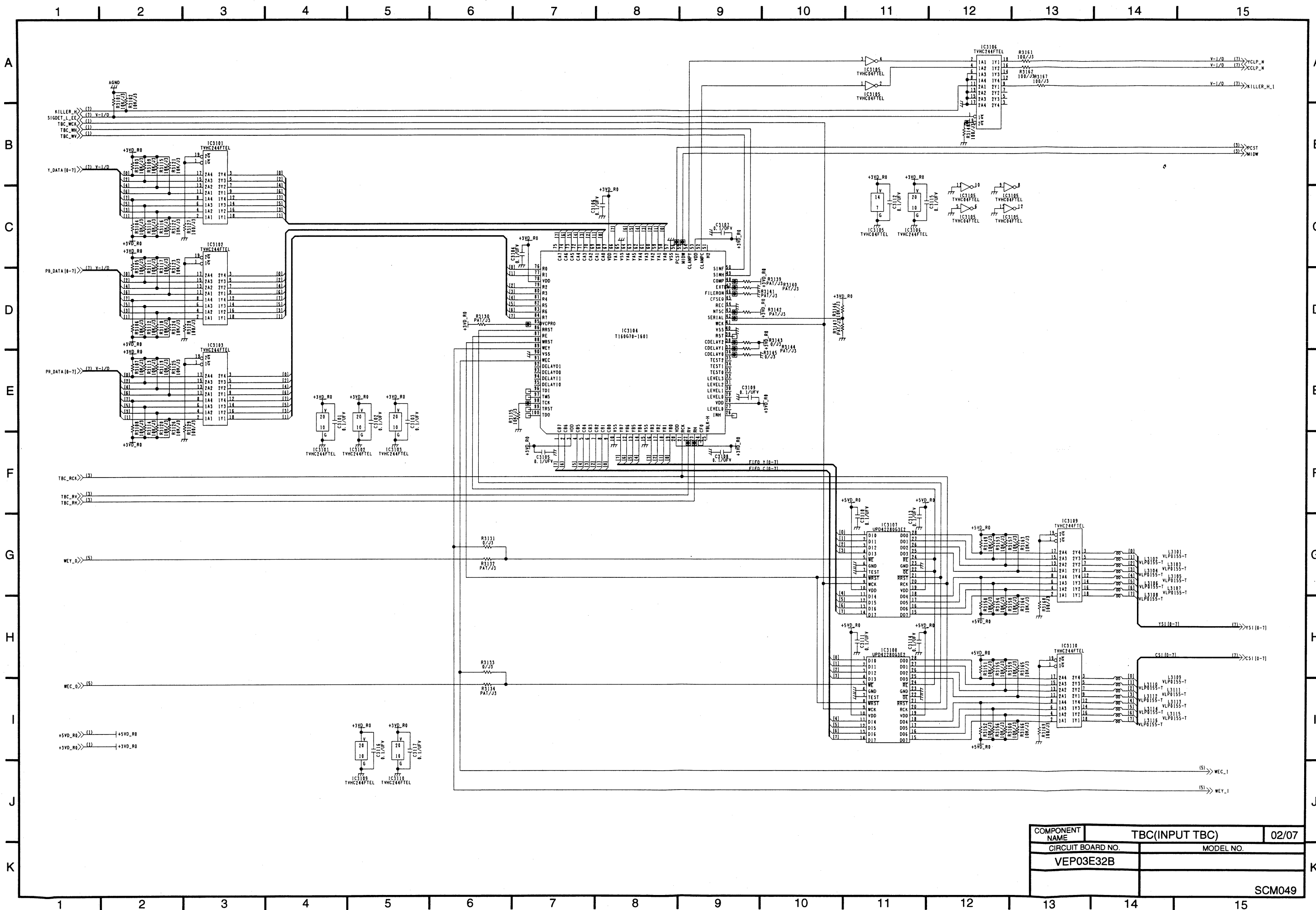
PAT=PATTERN ONLY
Ref No. 31100 Series.

COMPONENT NAME	VIDEO I/O(VIDEO OUT)	11/12
CIRCUIT BOARD NO.	MODEL NO.	
VEP03F01A		
		SCM046

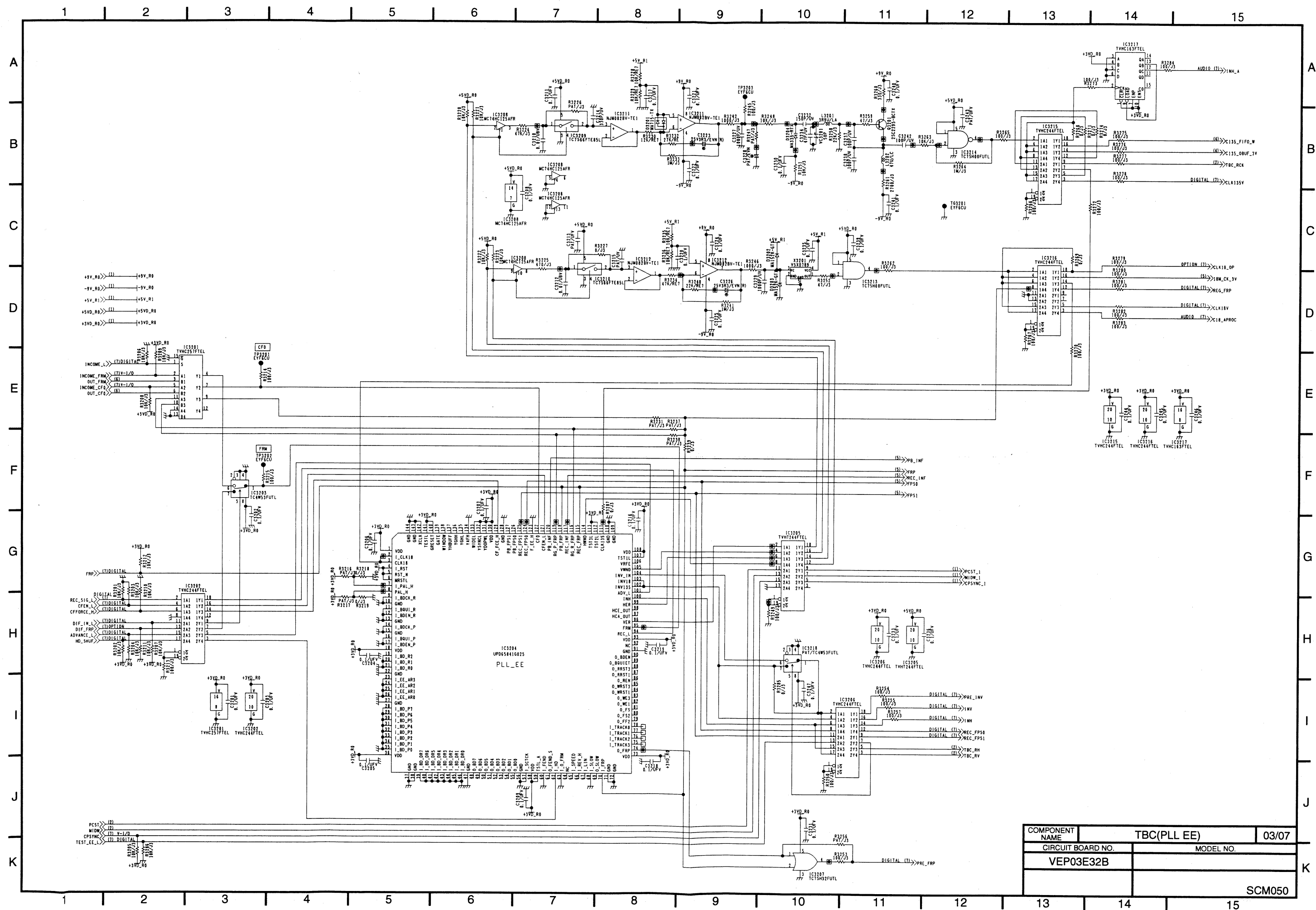


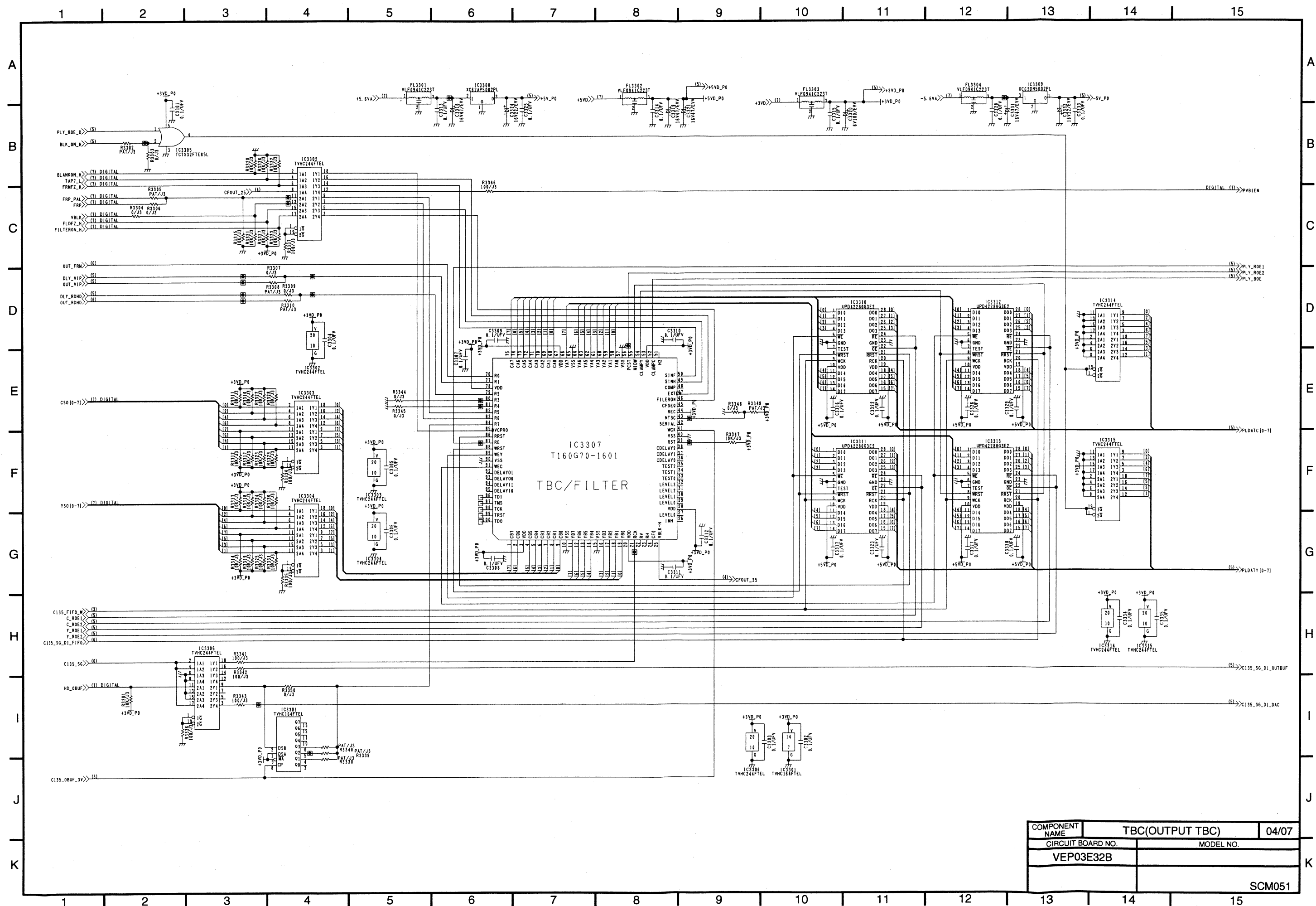


COMPONENT NAME	TBC(13.5M PLL)	01/07
CIRCUIT BOARD NO.	VEP03E32B	MODEL NO.
		SCM048

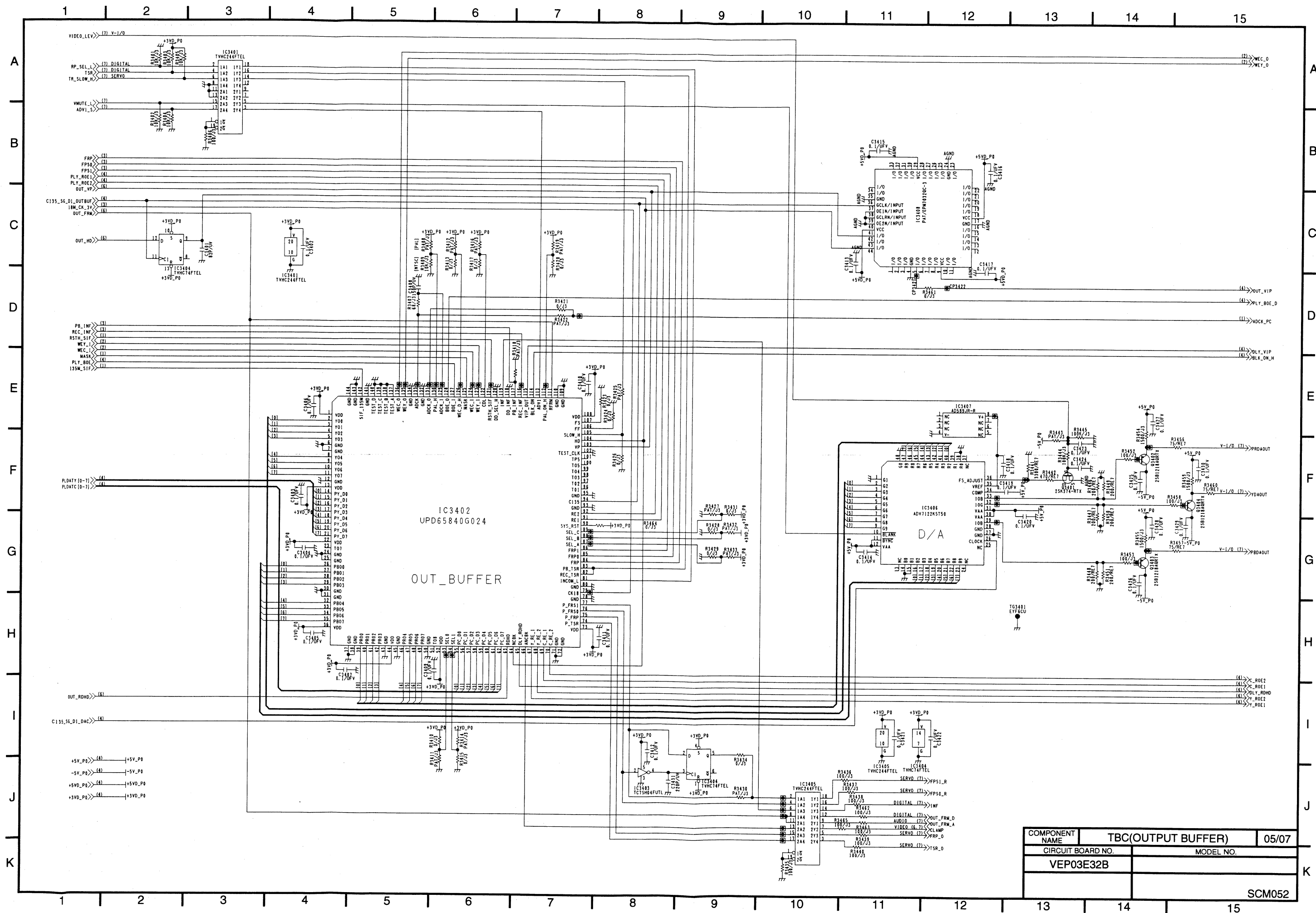


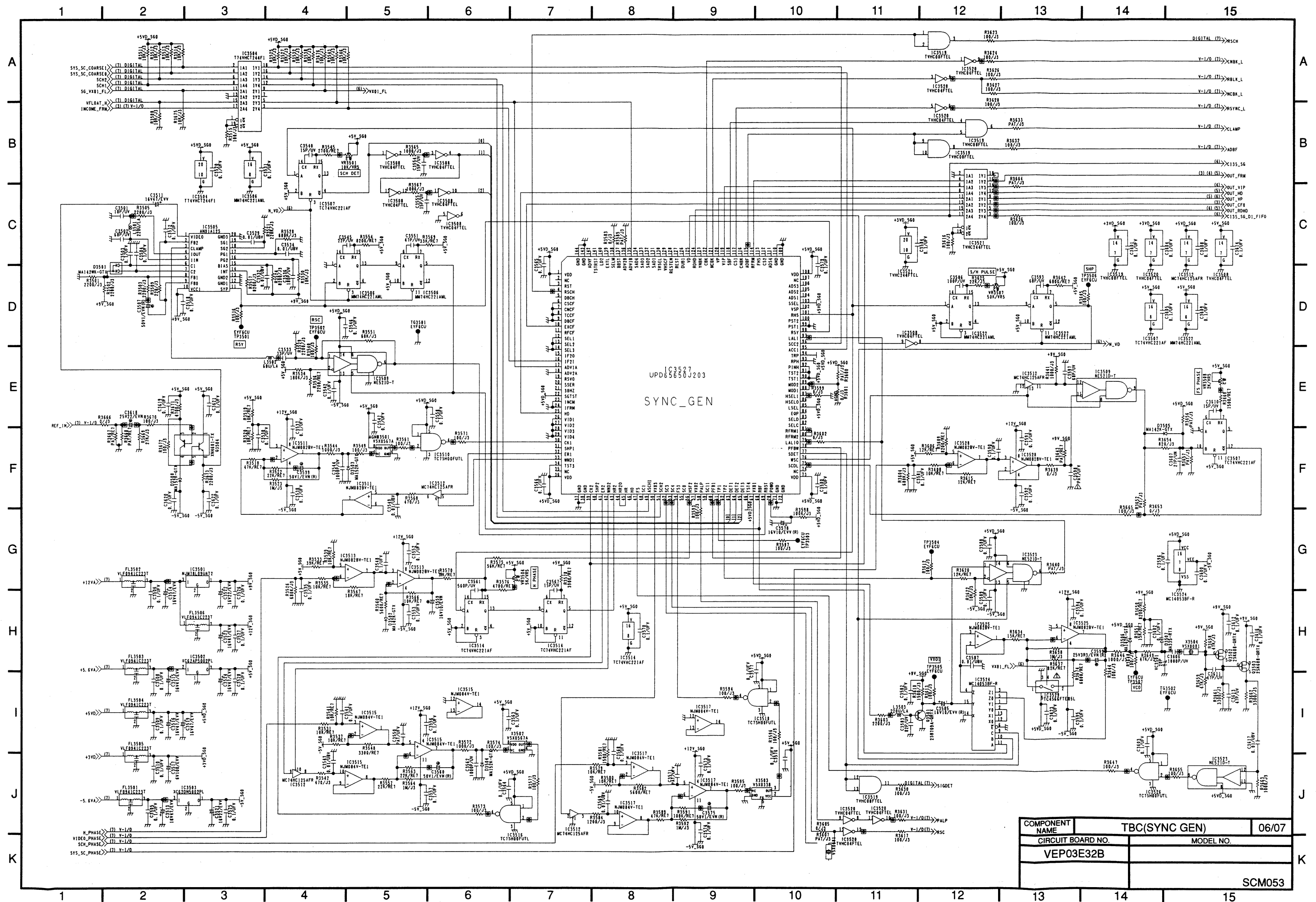
COMPONENT NAME	TBC(INPUT TBC)	02/07
CIRCUIT BOARD NO.	MODEL NO.	
VEP03E32B		
		SCM049

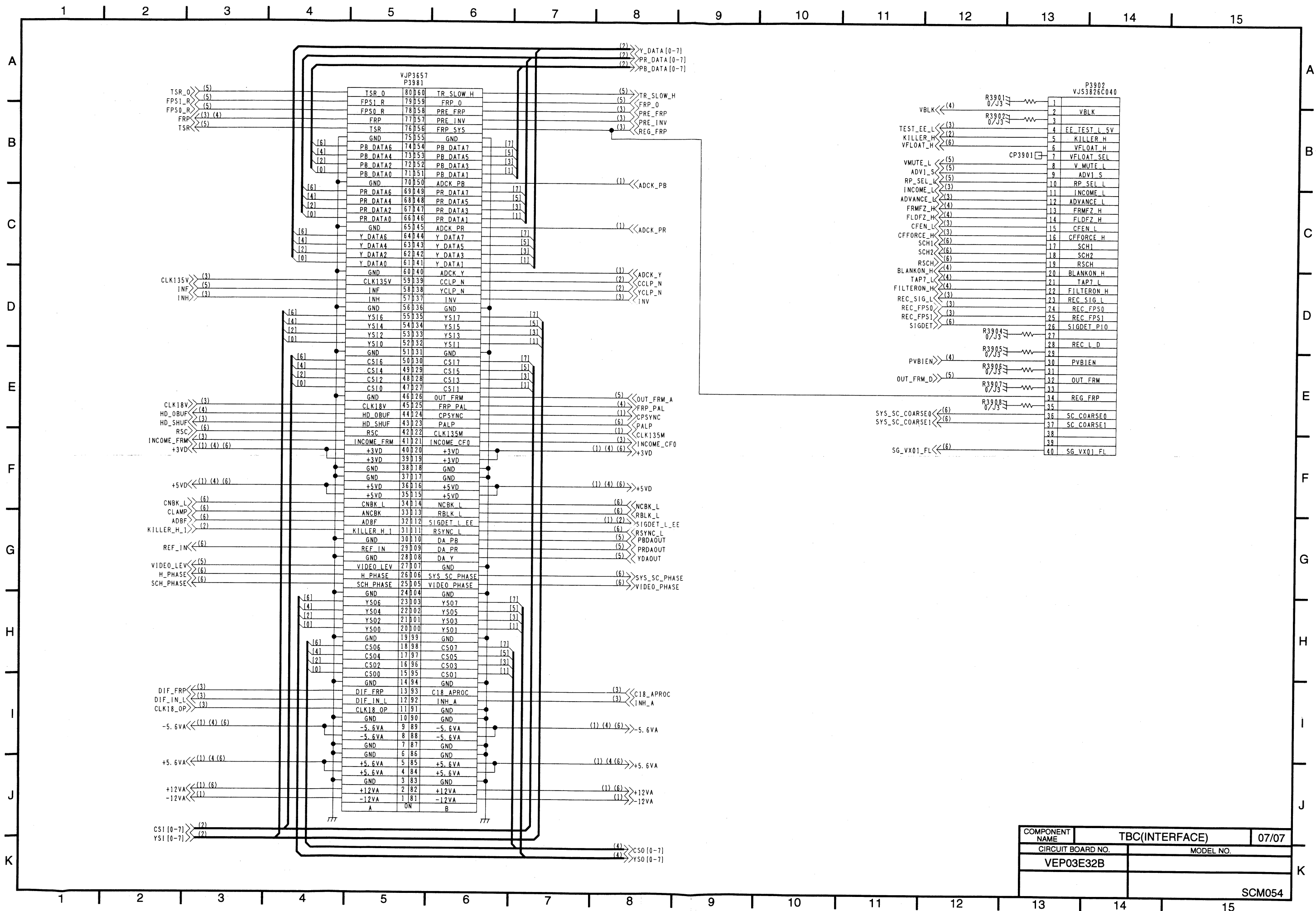


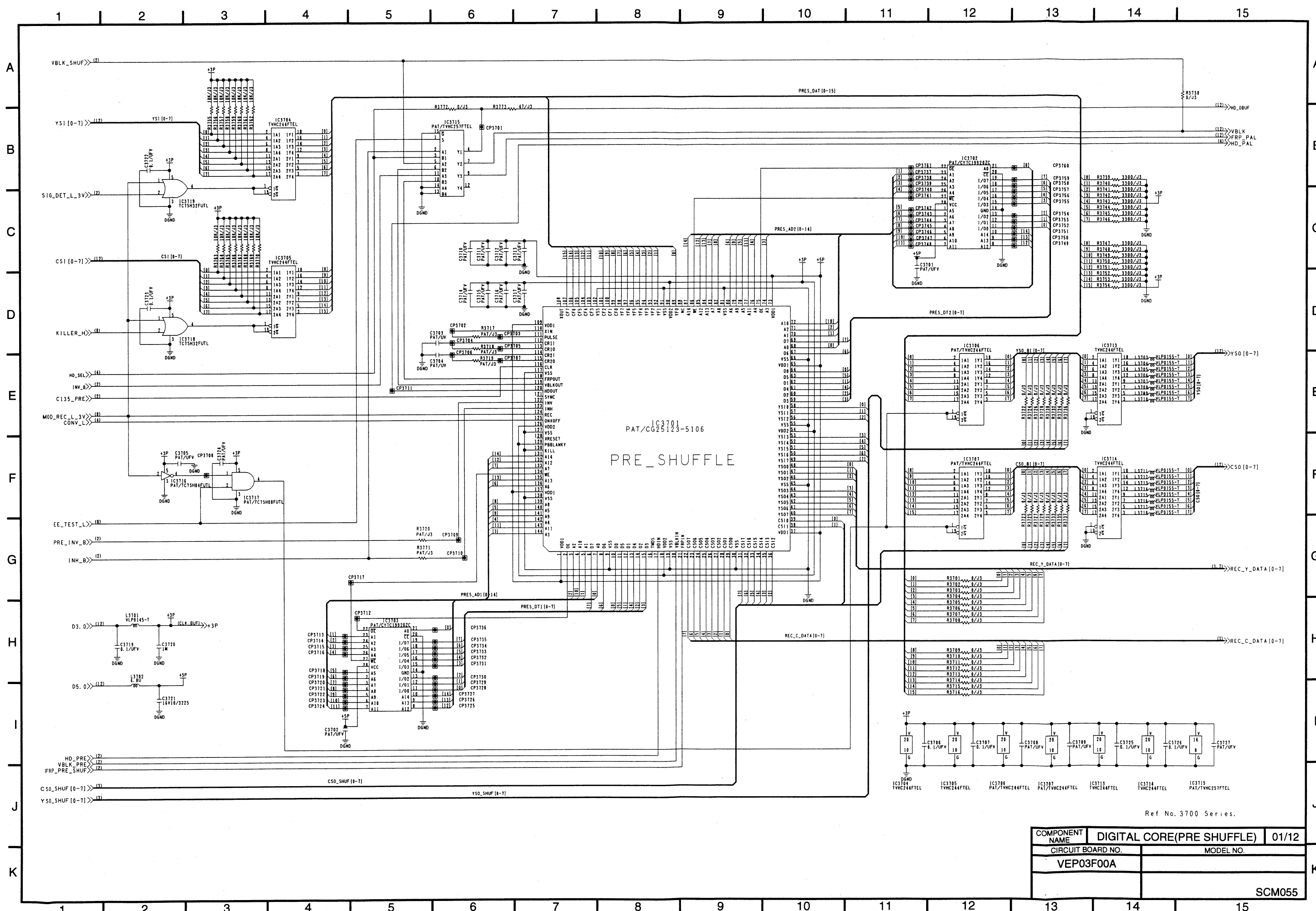


COMPONENT NAME	TBC(OUTPUT TBC)	04/07
CIRCUIT BOARD NO.	MODEL NO.	
VEP03E32B		
SCM051		



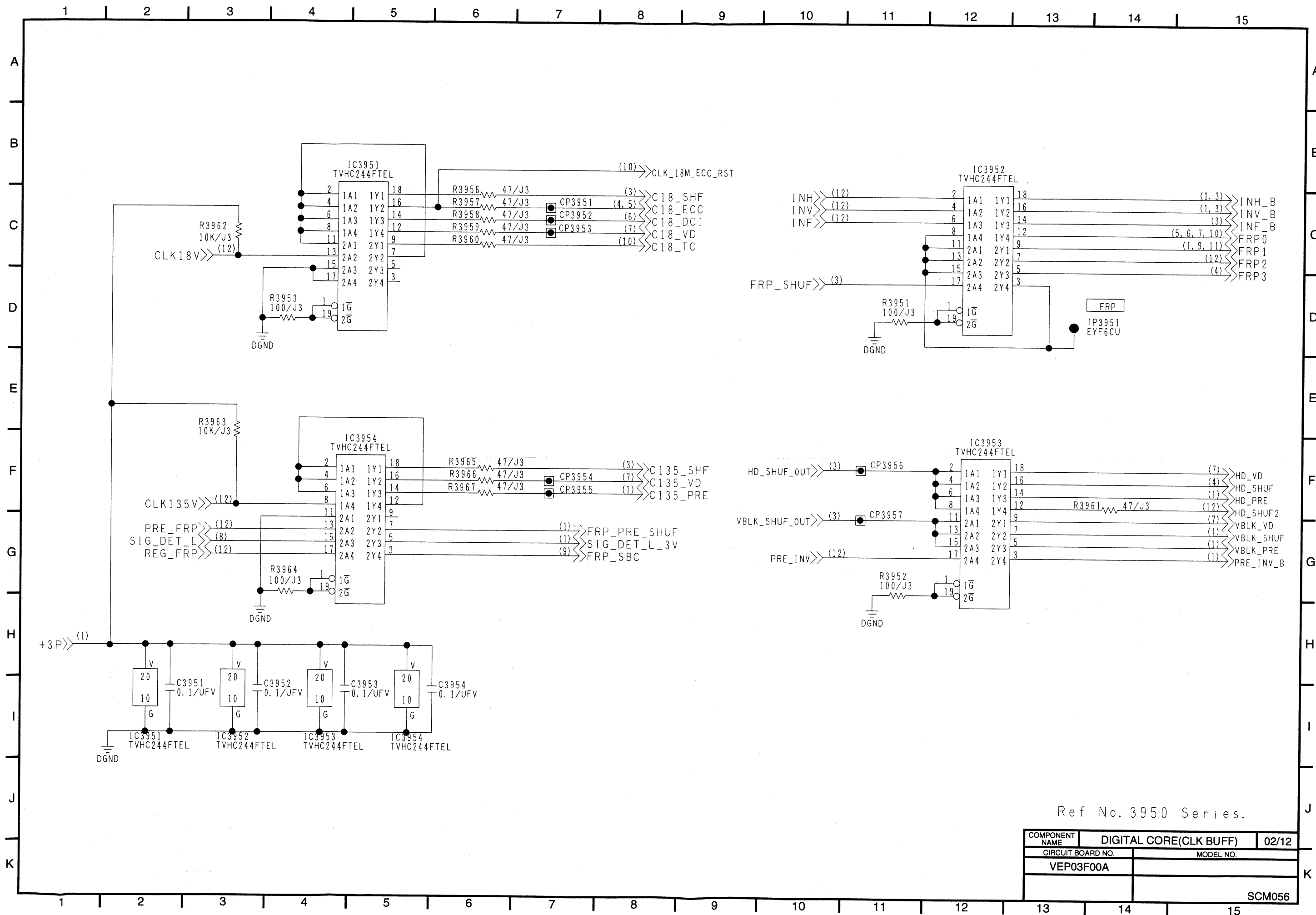


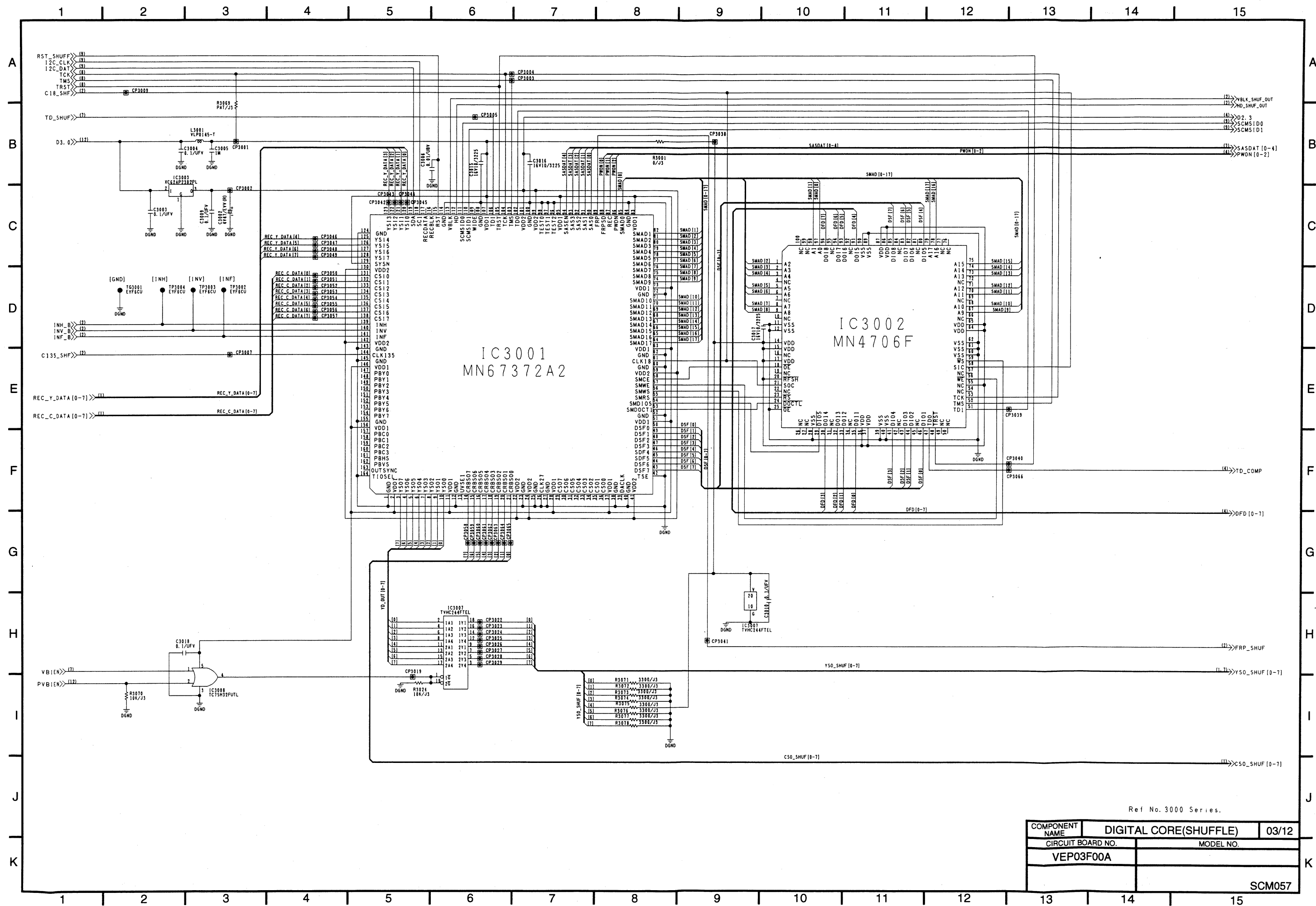




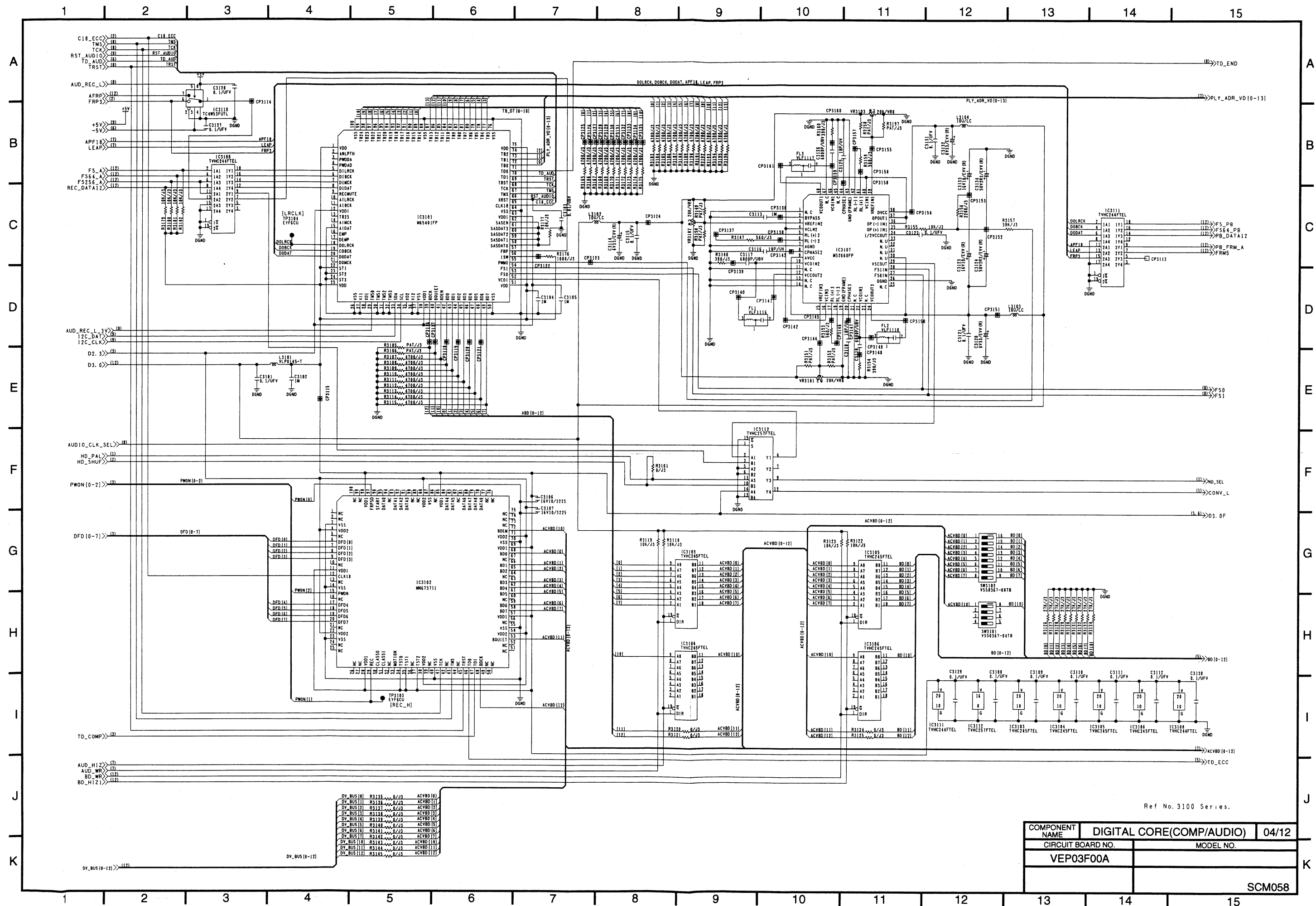
Ref No. 3700 Series.

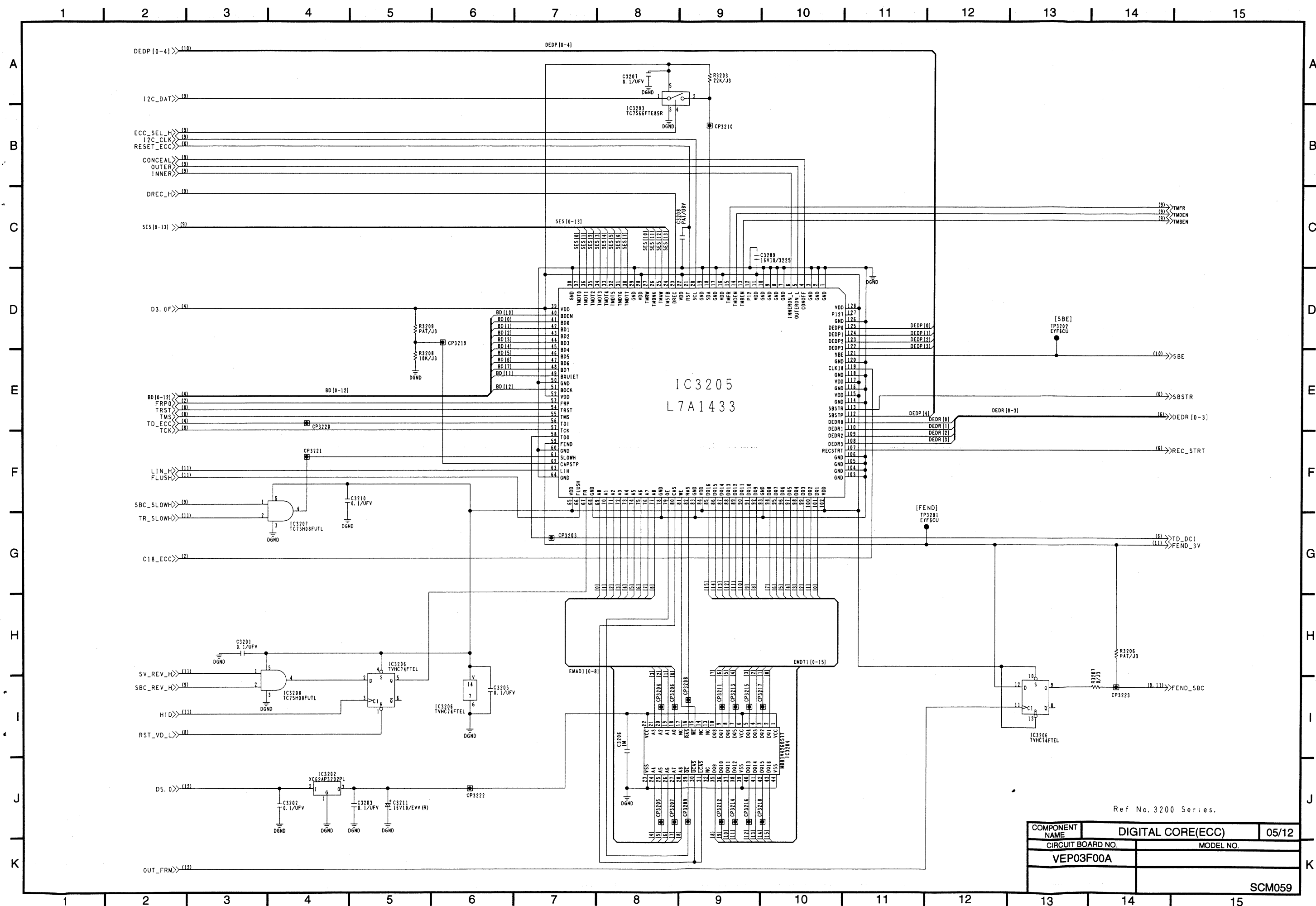
COMPONENT NAME	DIGITAL CORE(PRE SHUFFLE)	01/12
CIRCUIT BOARD NO.	MODEL NO.	
VEP03F00A		
		SCM055

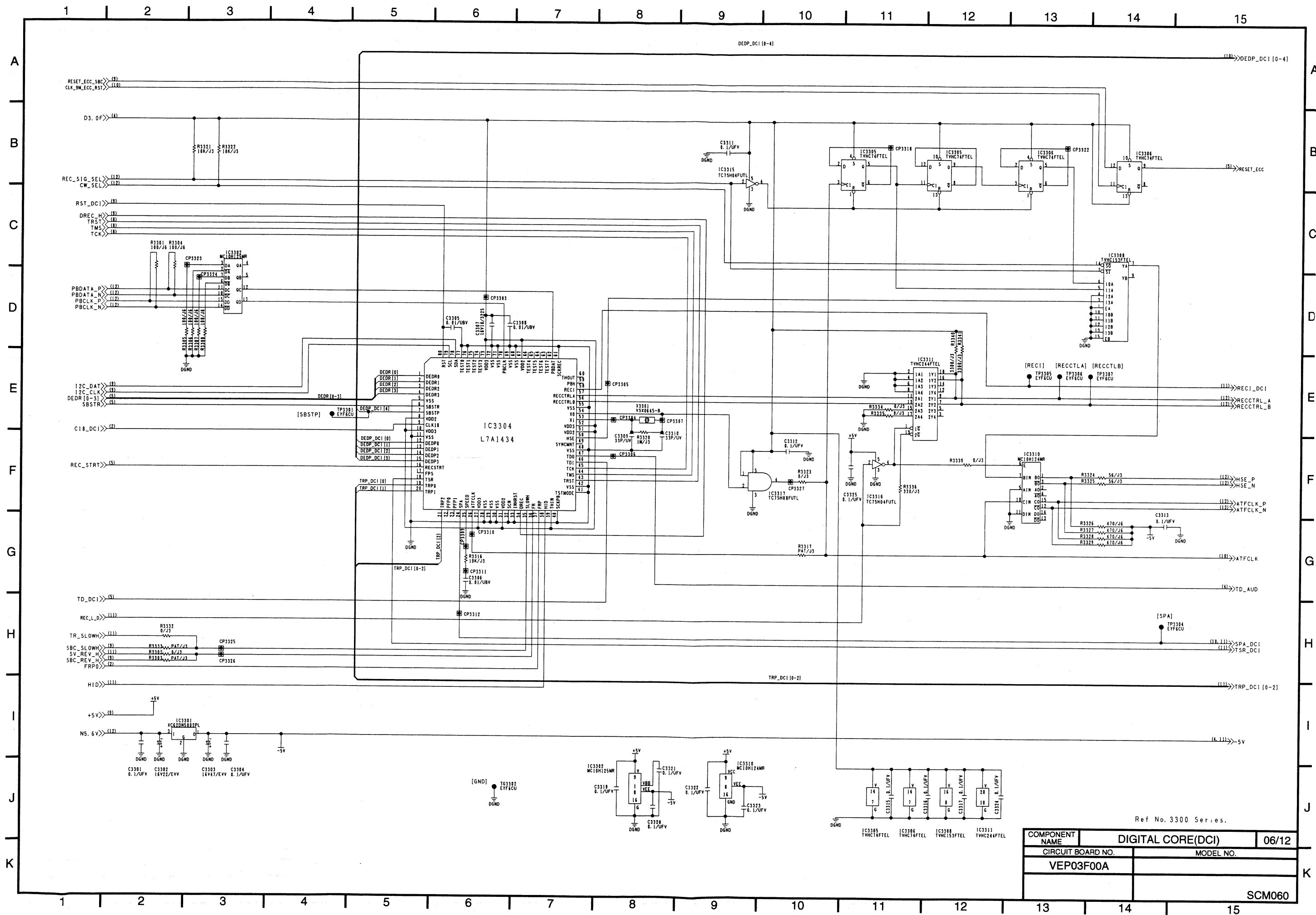


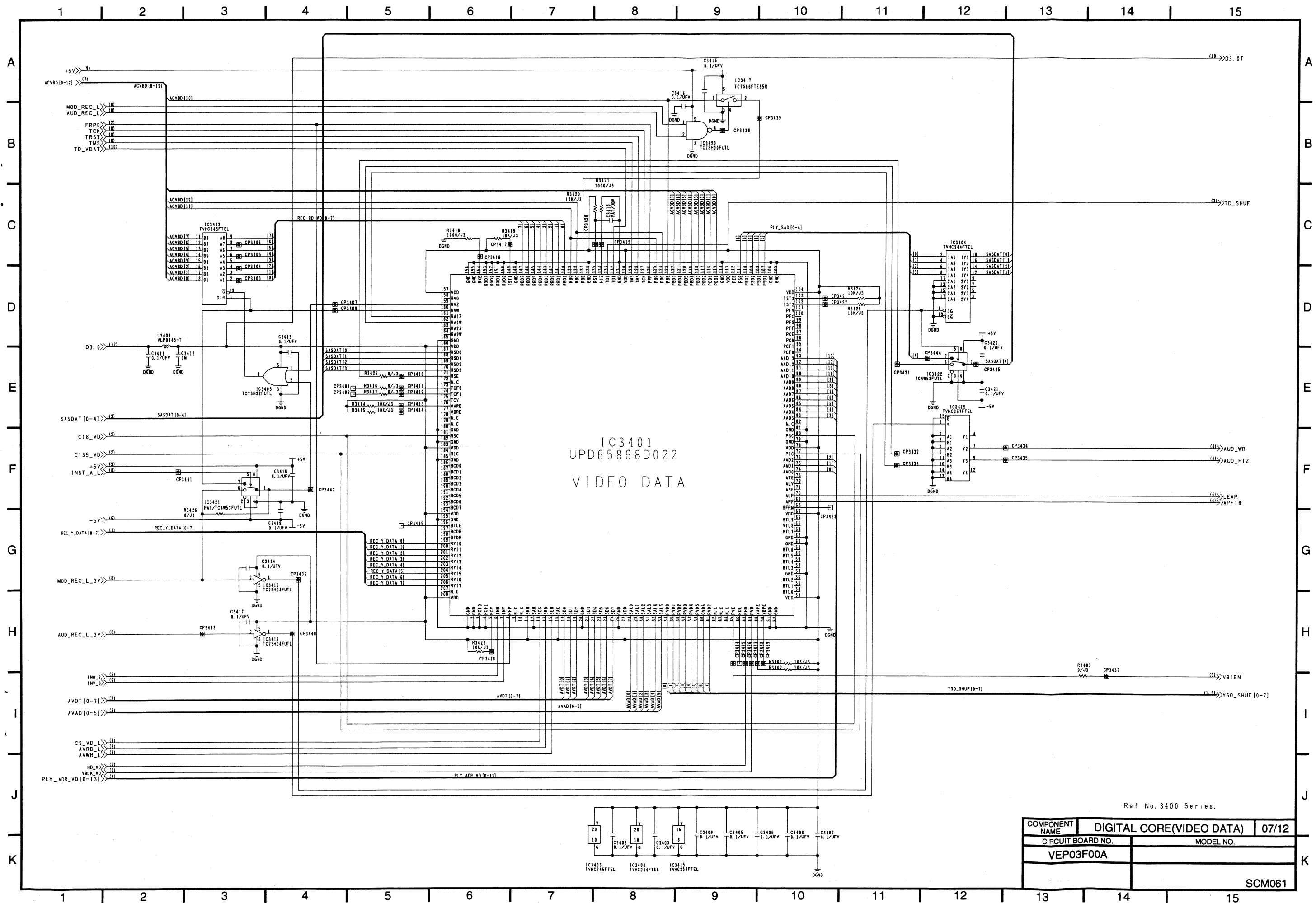


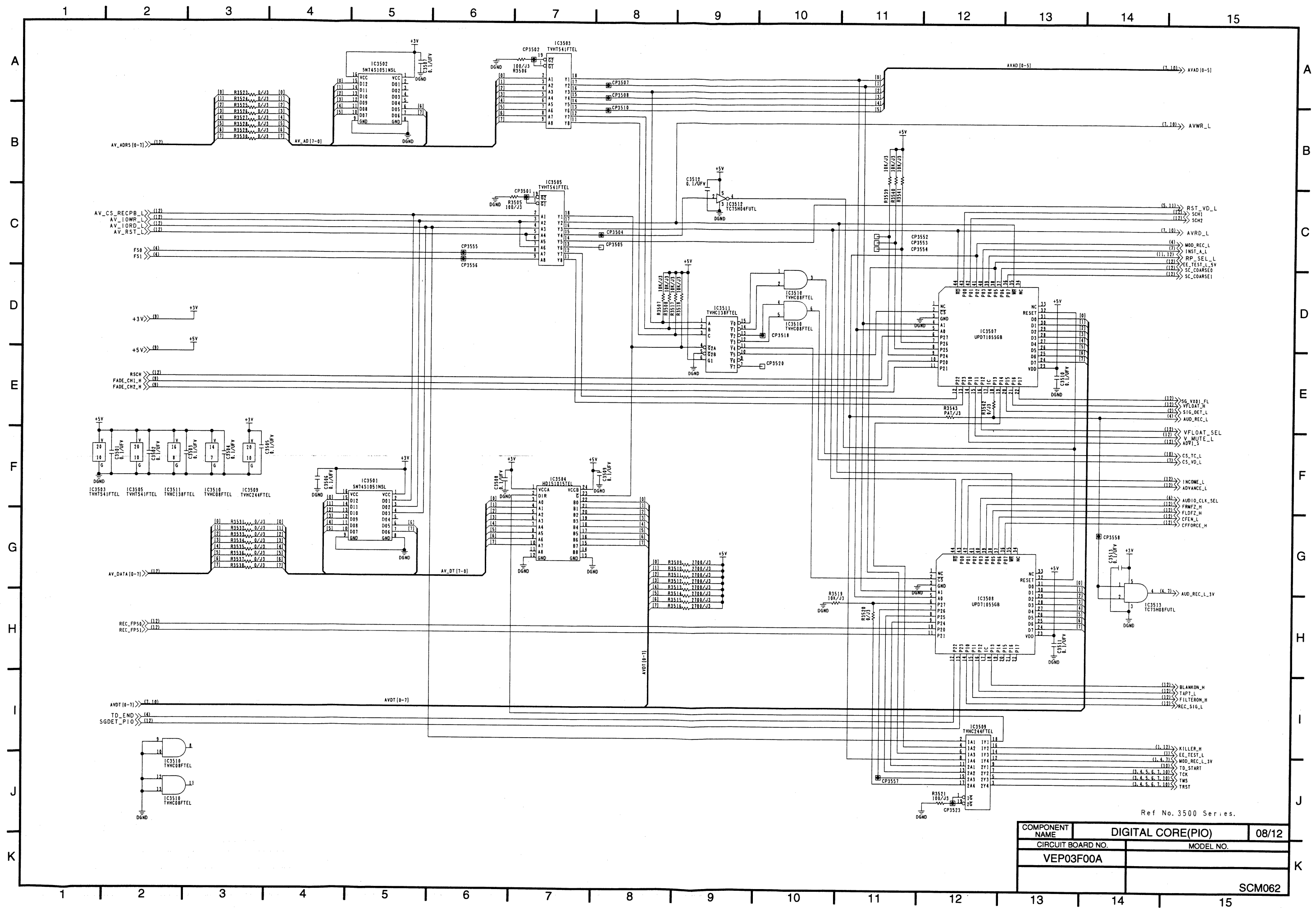
COMPONENT NAME	DIGITAL CORE(SHUFFLE)	03/12
CIRCUIT BOARD NO.	MODEL NO.	
VEP03F00A		
	SCM057	

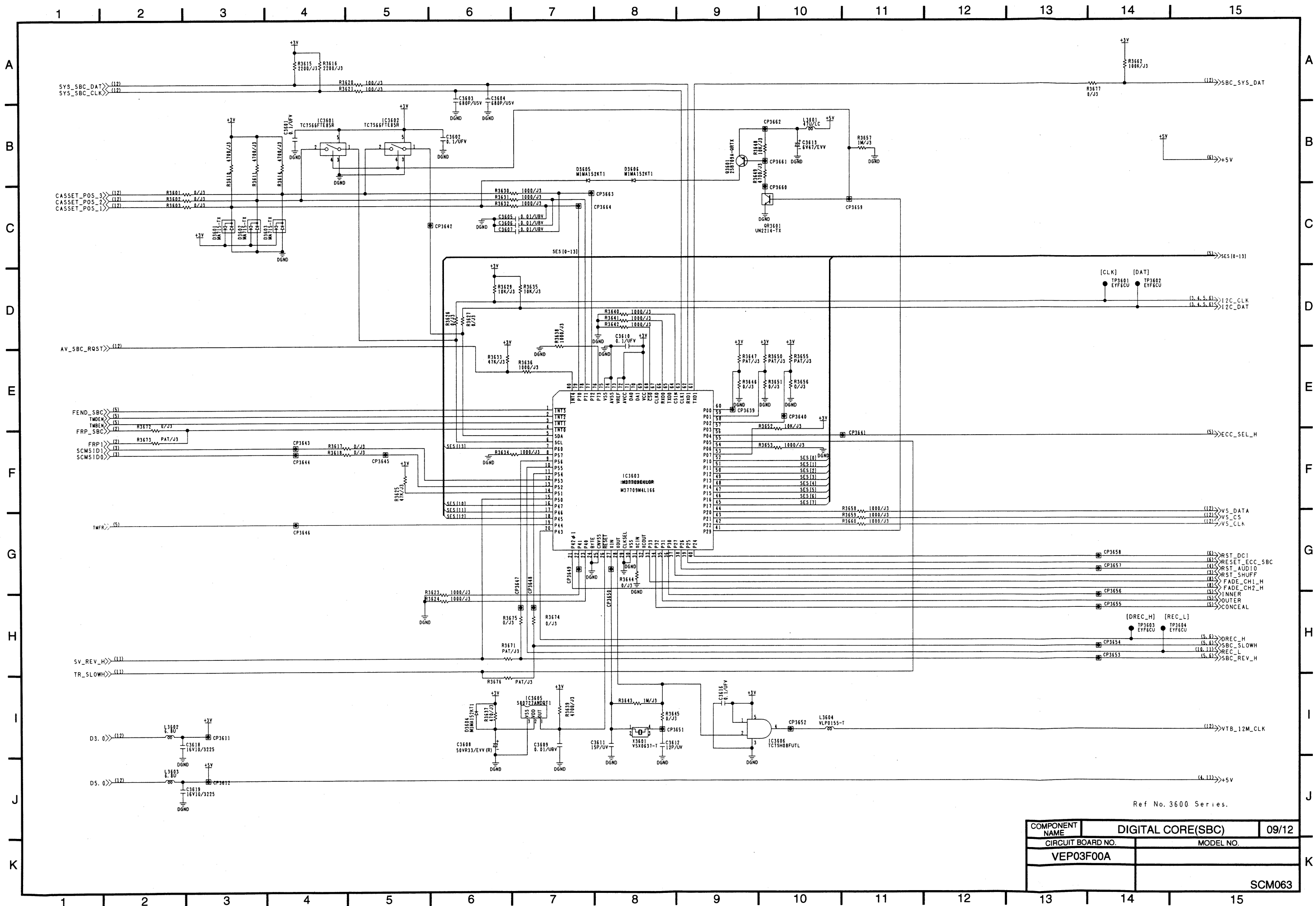






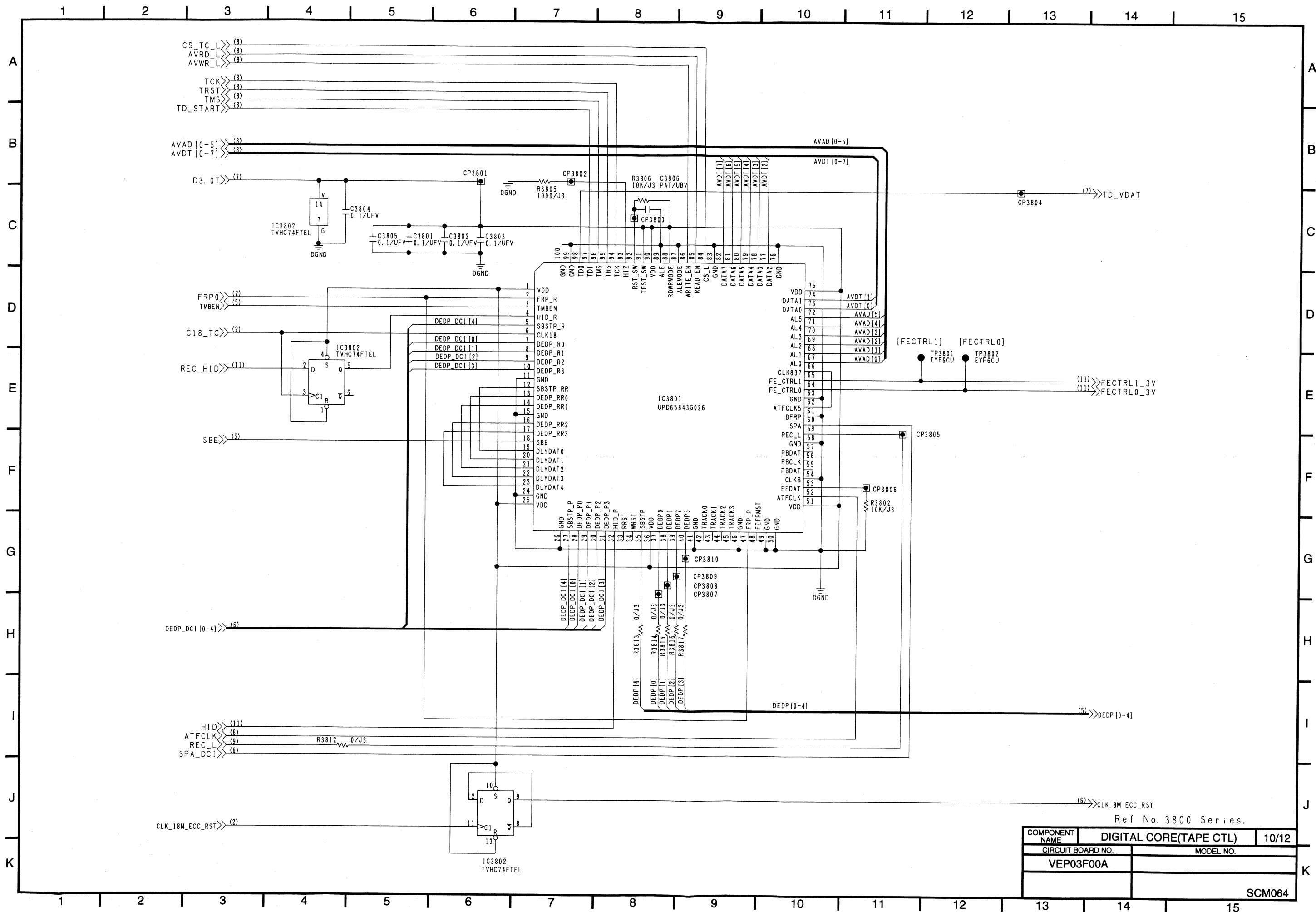




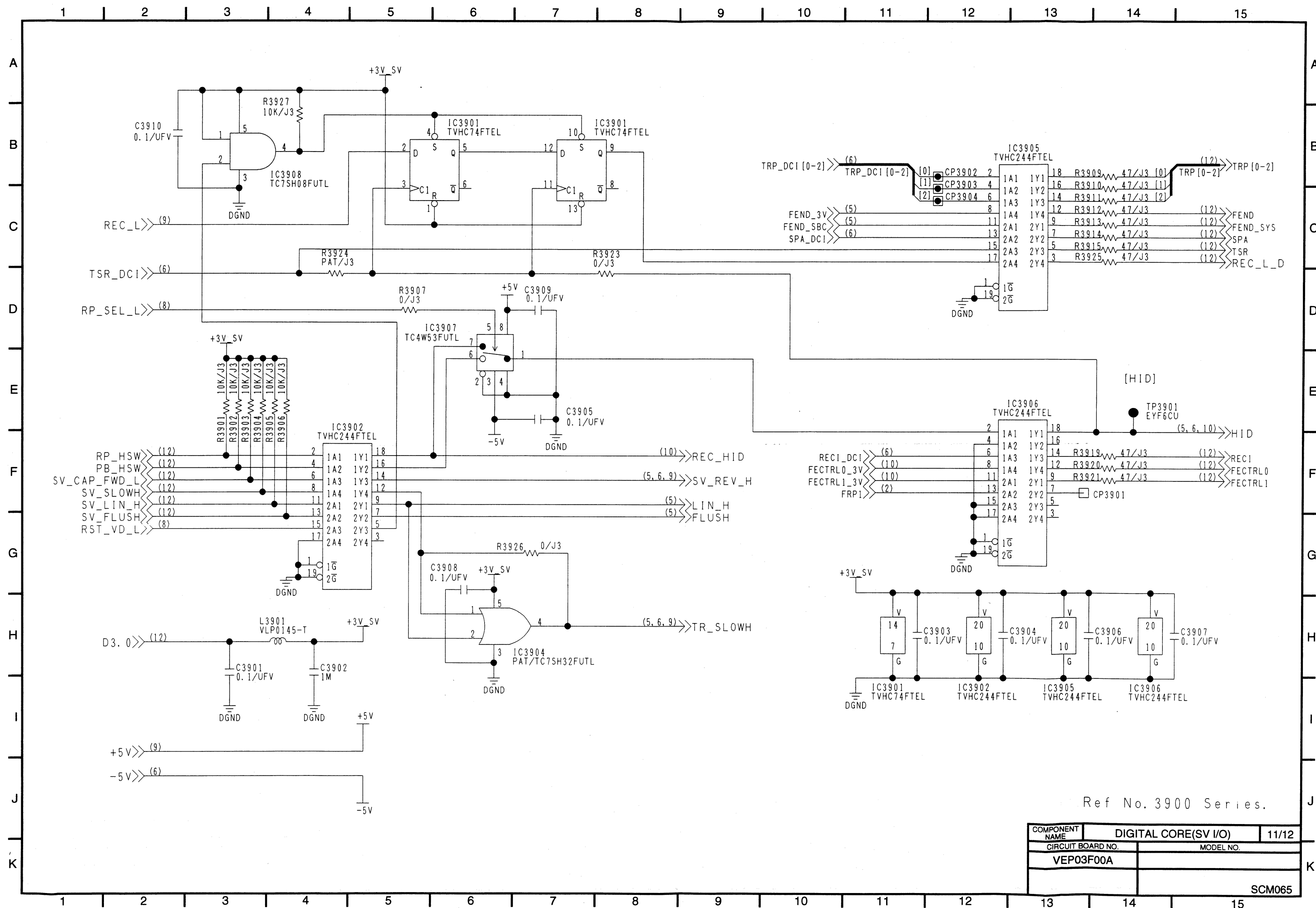


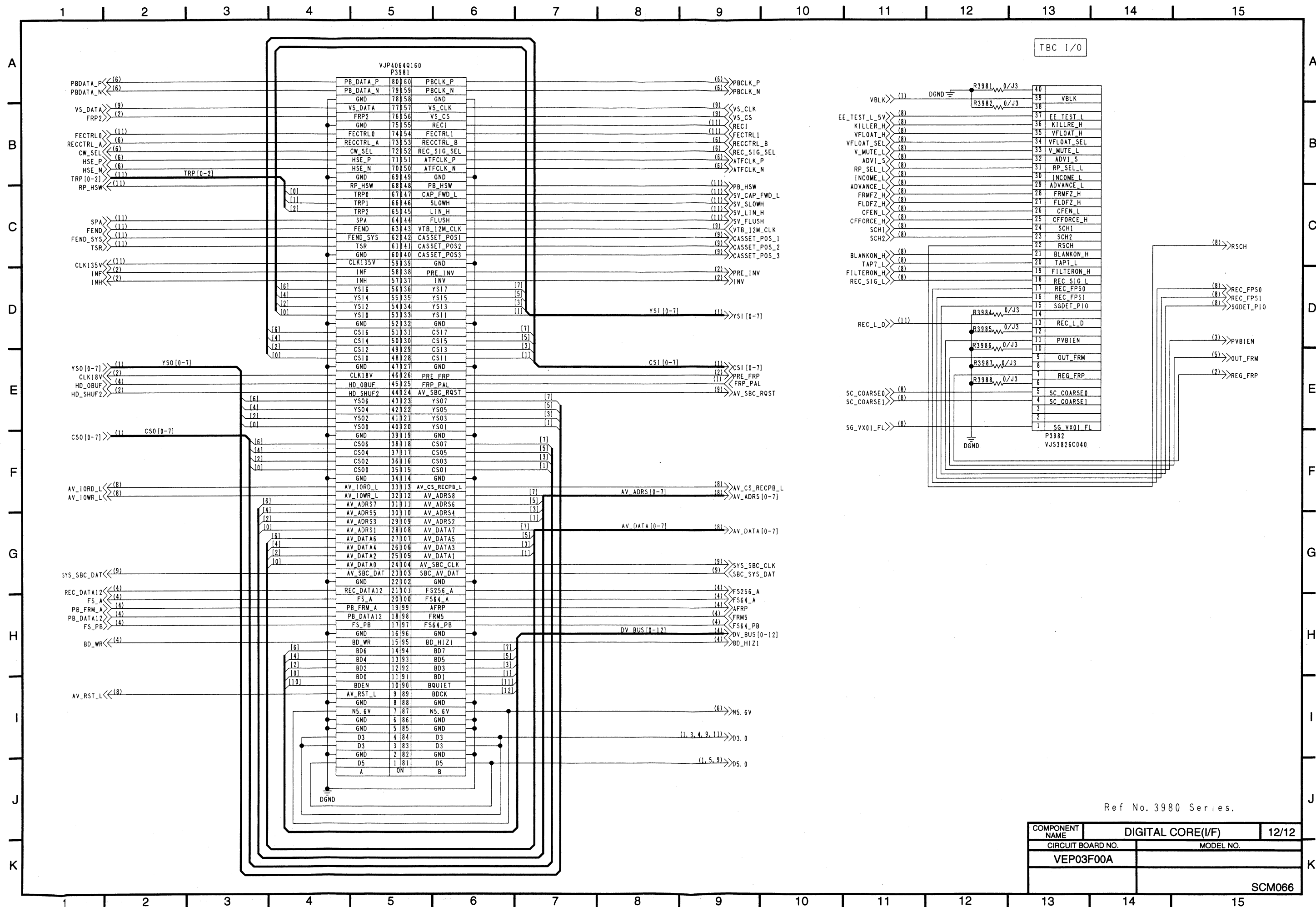
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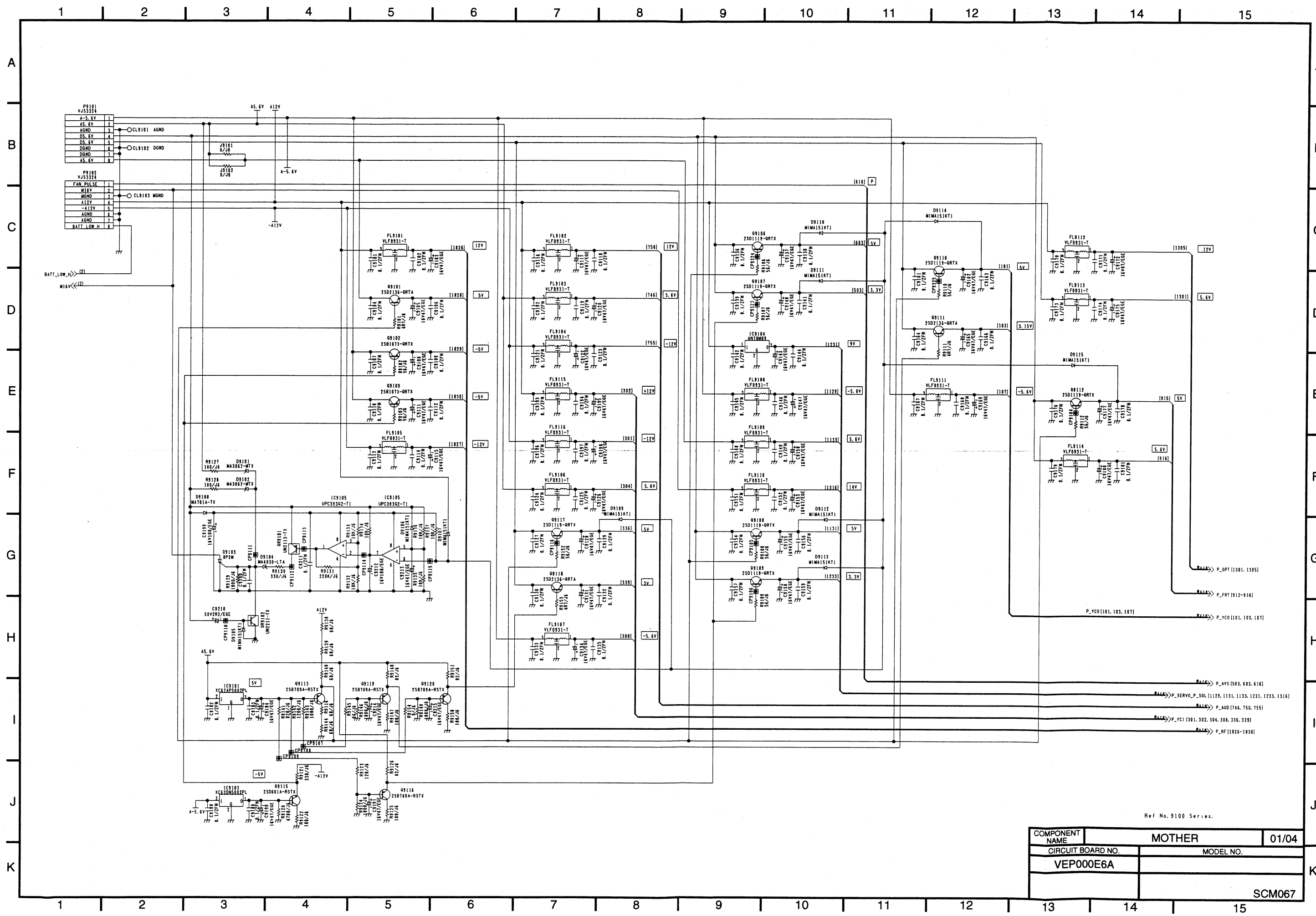
COMPONENT NAME	DIGITAL CORE(SBC)	09/12
CIRCUIT BOARD NO.	MODEL NO.	
VEP03F00A		
		SCM063



Ref No. 3800 Series.		
COMPONENT NAME	DIGITAL CORE(TAPE CTL)	10/12
CIRCUIT BOARD NO.	MODEL NO.	
VEP03F00A		
	SCM064	

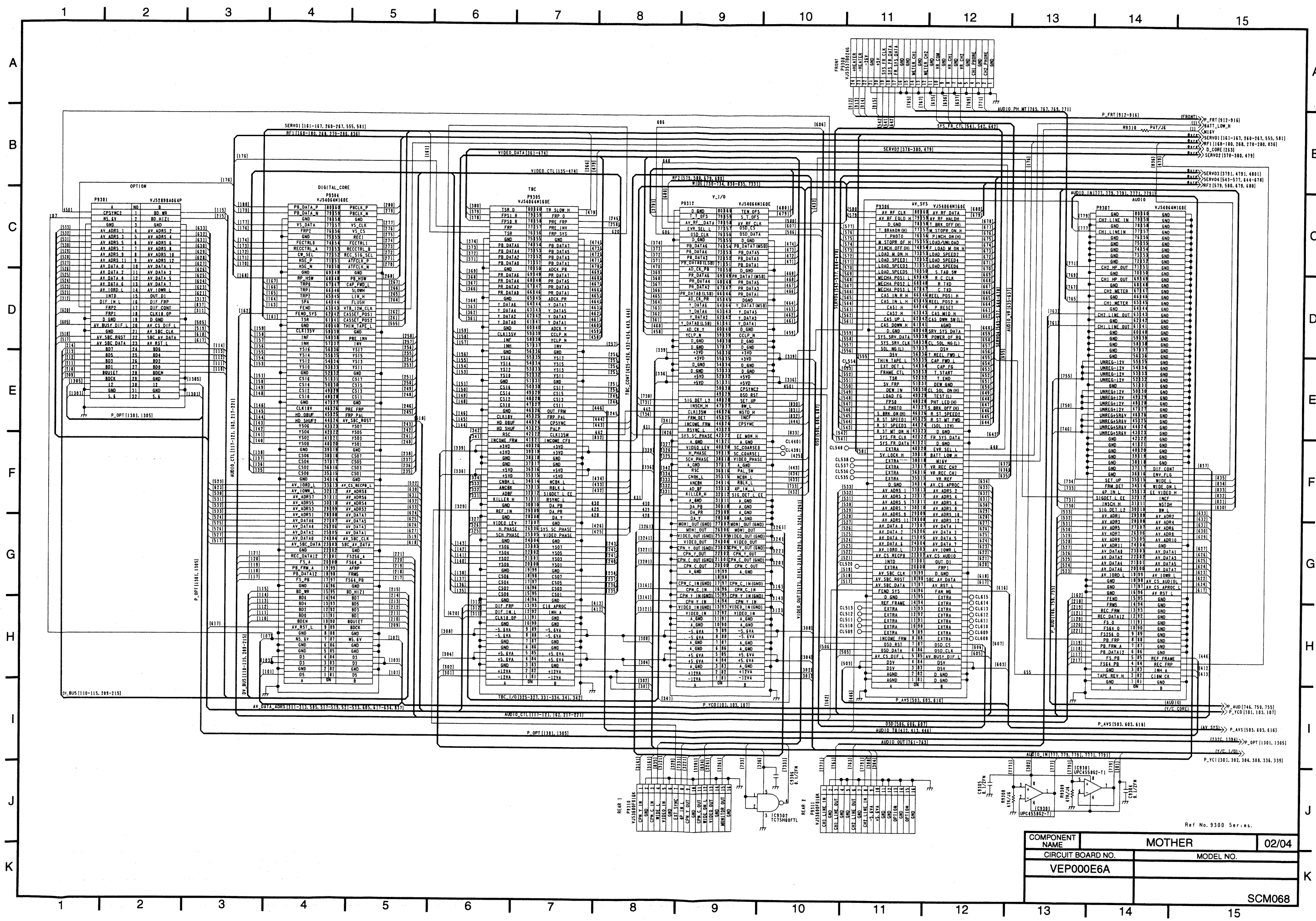




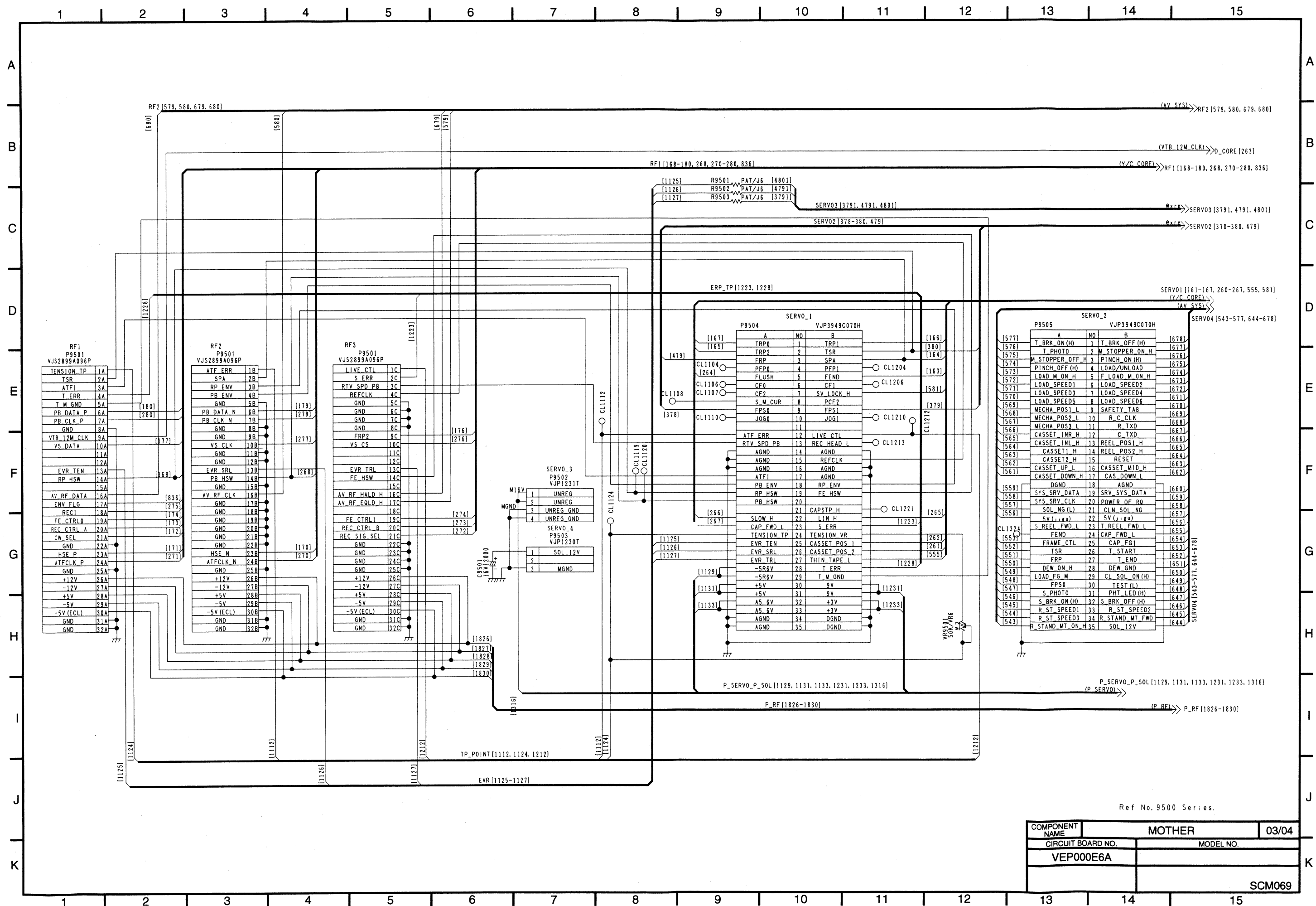


Ref No. 9100 Series.

COMPONENT NAME	MOTHER	01/04
CIRCUIT BOARD NO.	MODEL NO.	
VEP000E6A		
		SCM067

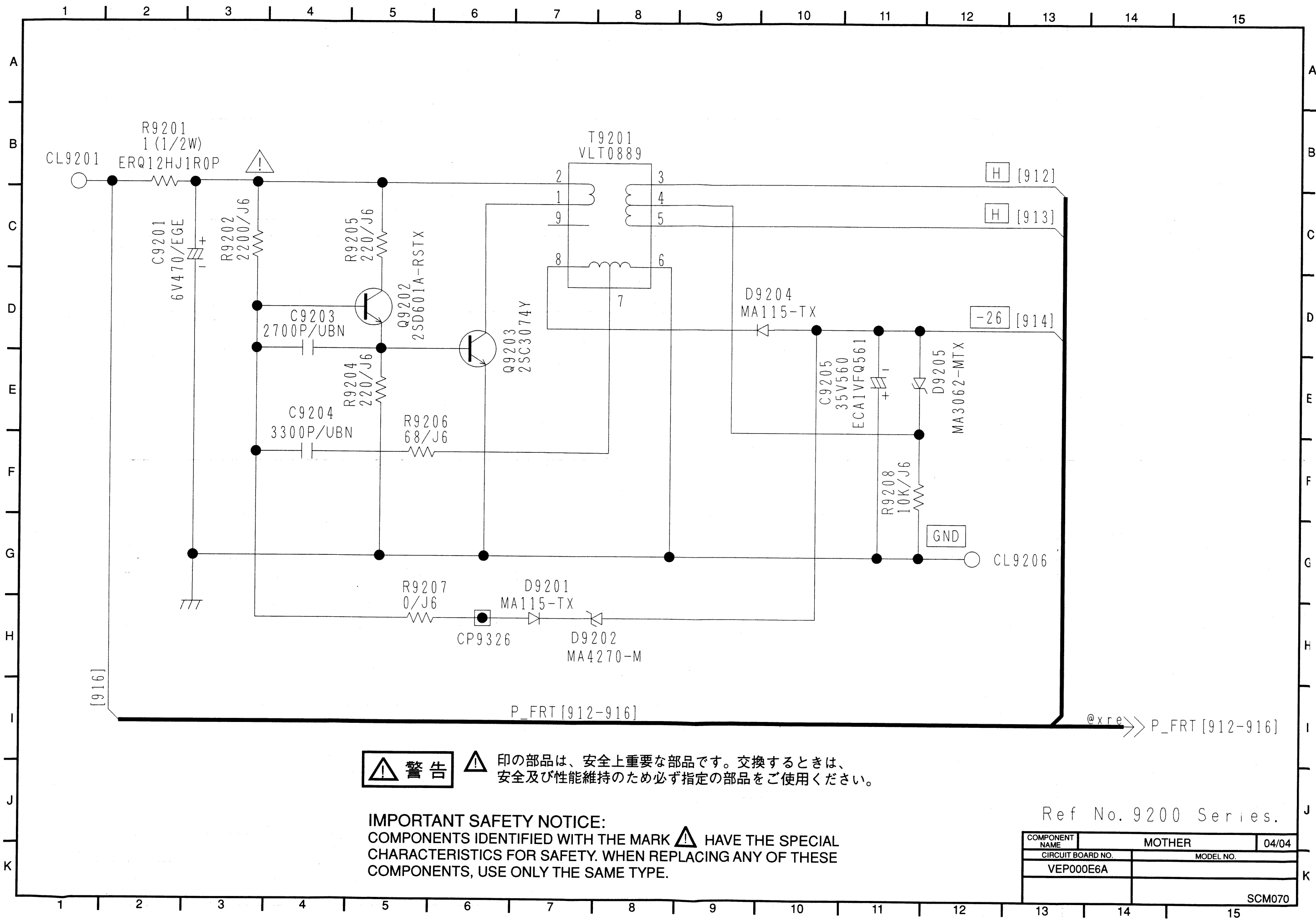


COMPONENT NAME	MOTHER	02/04
CIRCUIT BOARD NO.	MODEL NO.	
VEP000E6A		
		SCM068



Ref No. 9500 Series.

COMPONENT NAME	MOTHER	03/04
CIRCUIT BOARD NO.	MODEL NO.	
VEP000E6A		
		SCM069

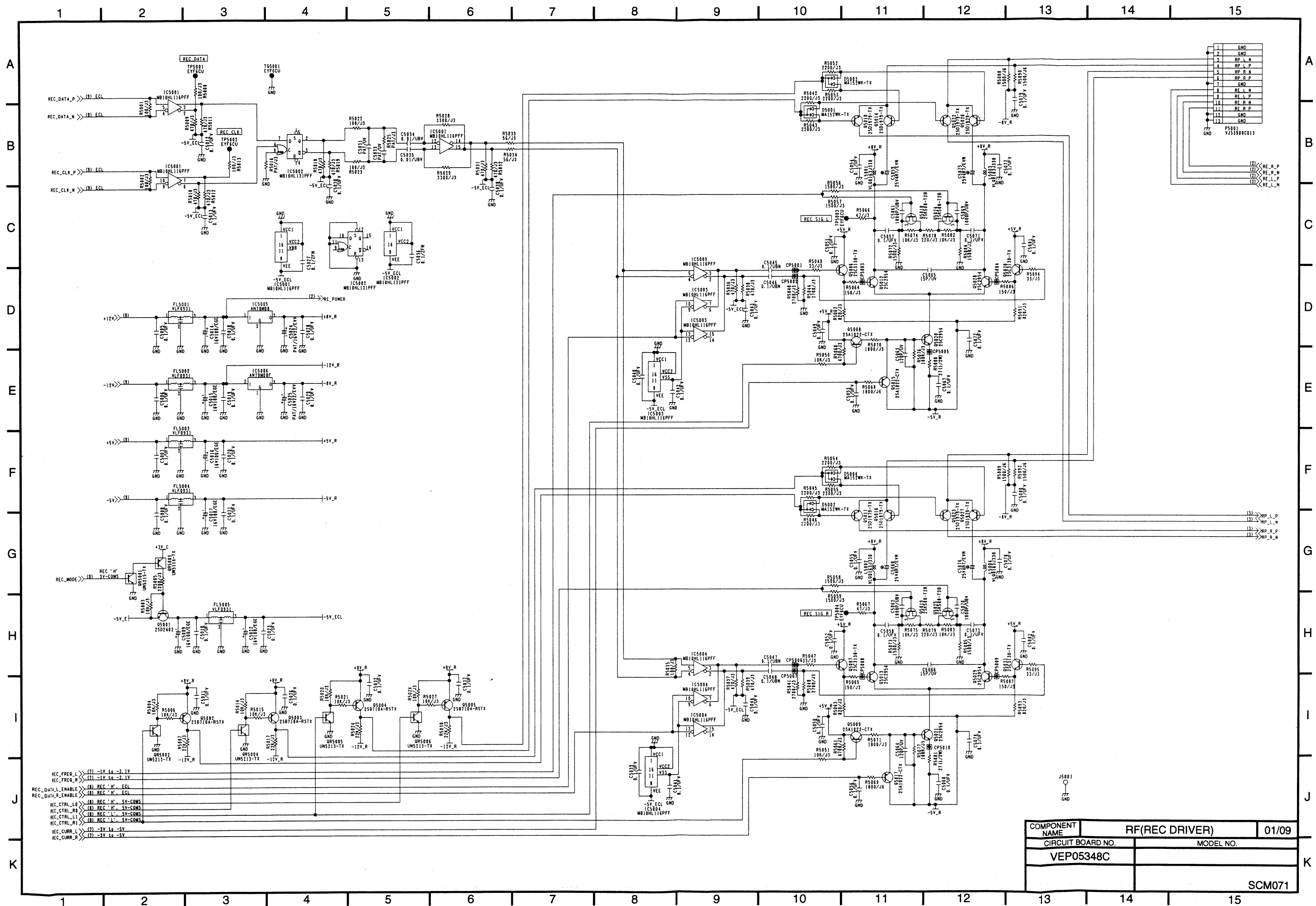


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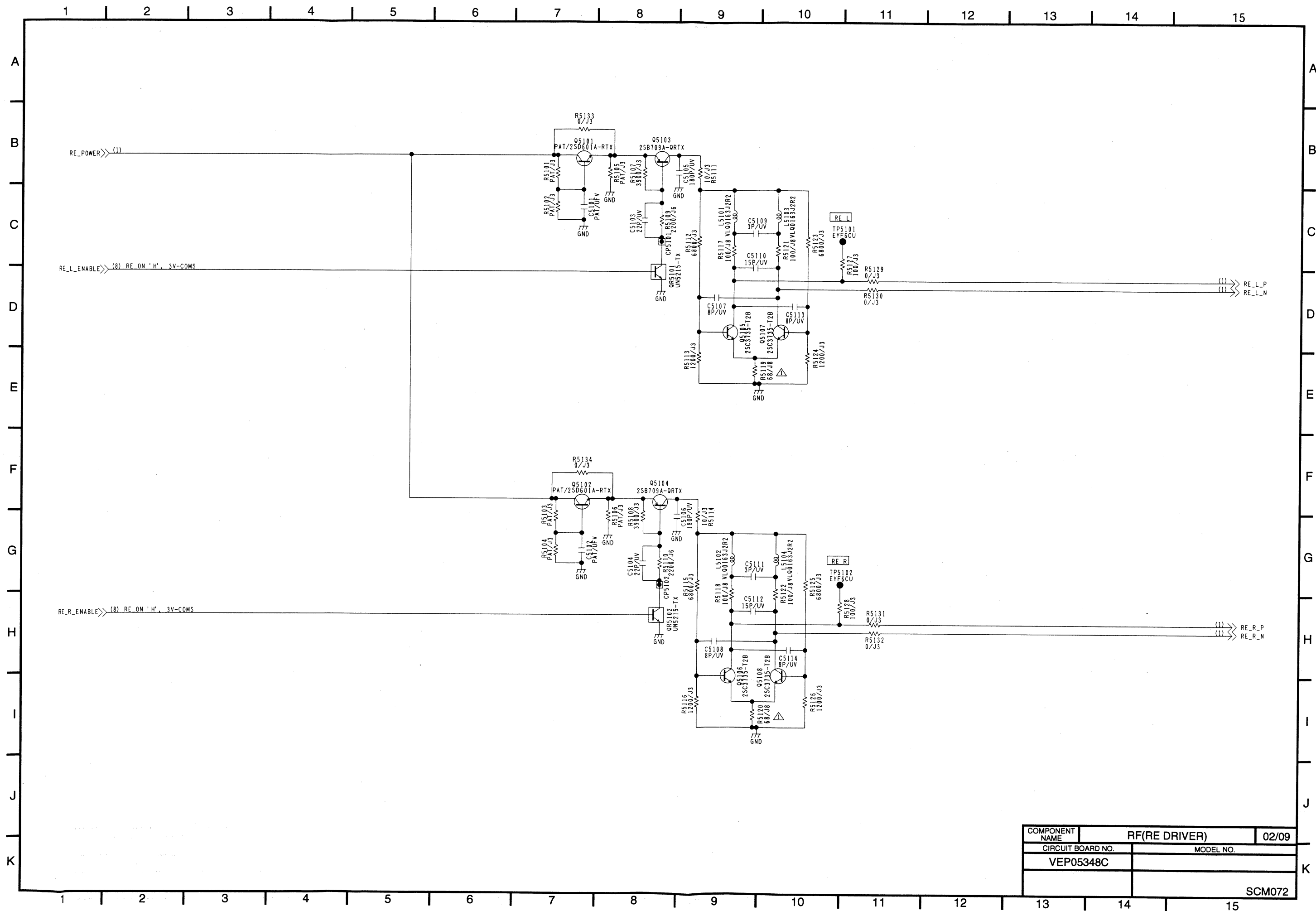
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

Ref No. 9200 Series.

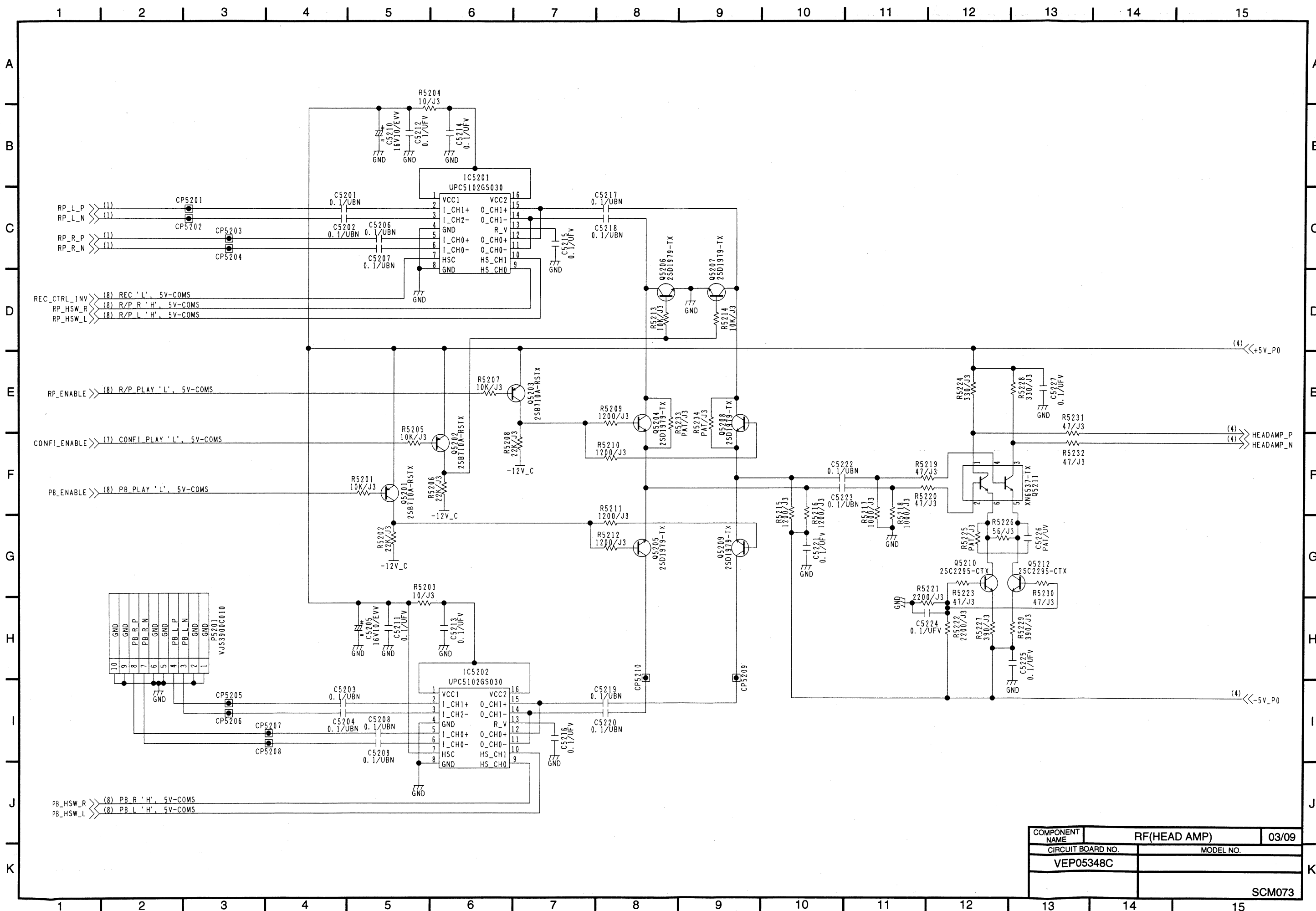
COMPONENT NAME	MOTHER	04/04
CIRCUIT BOARD NO.	MODEL NO.	
VEP000E6A		
		SCM070



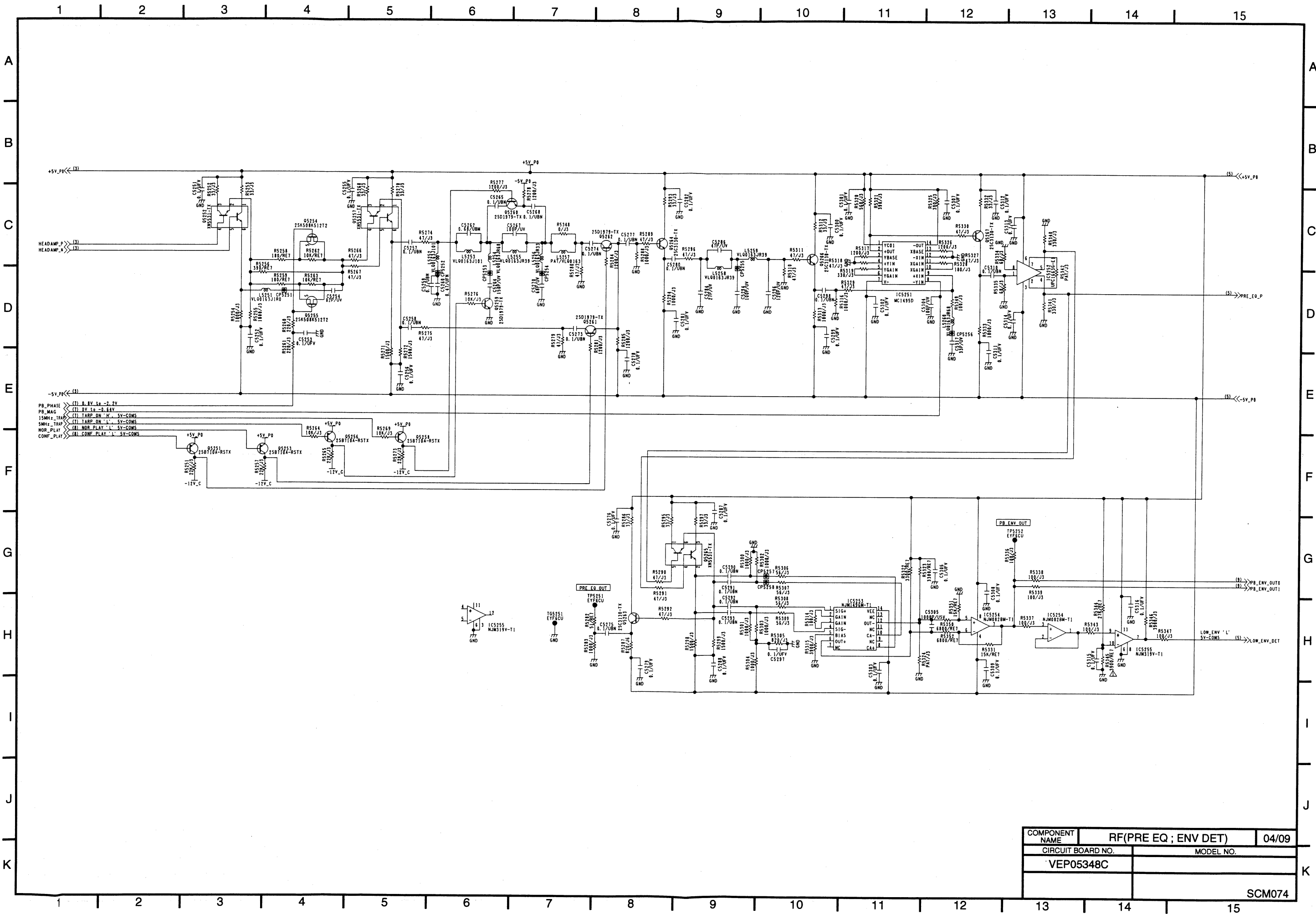
COMPONENT NAME	RF(REC DRIVER)	01/09
CIRCUIT BOARD NO.	MODEL NO.	
VEP05348C		
		SCM071

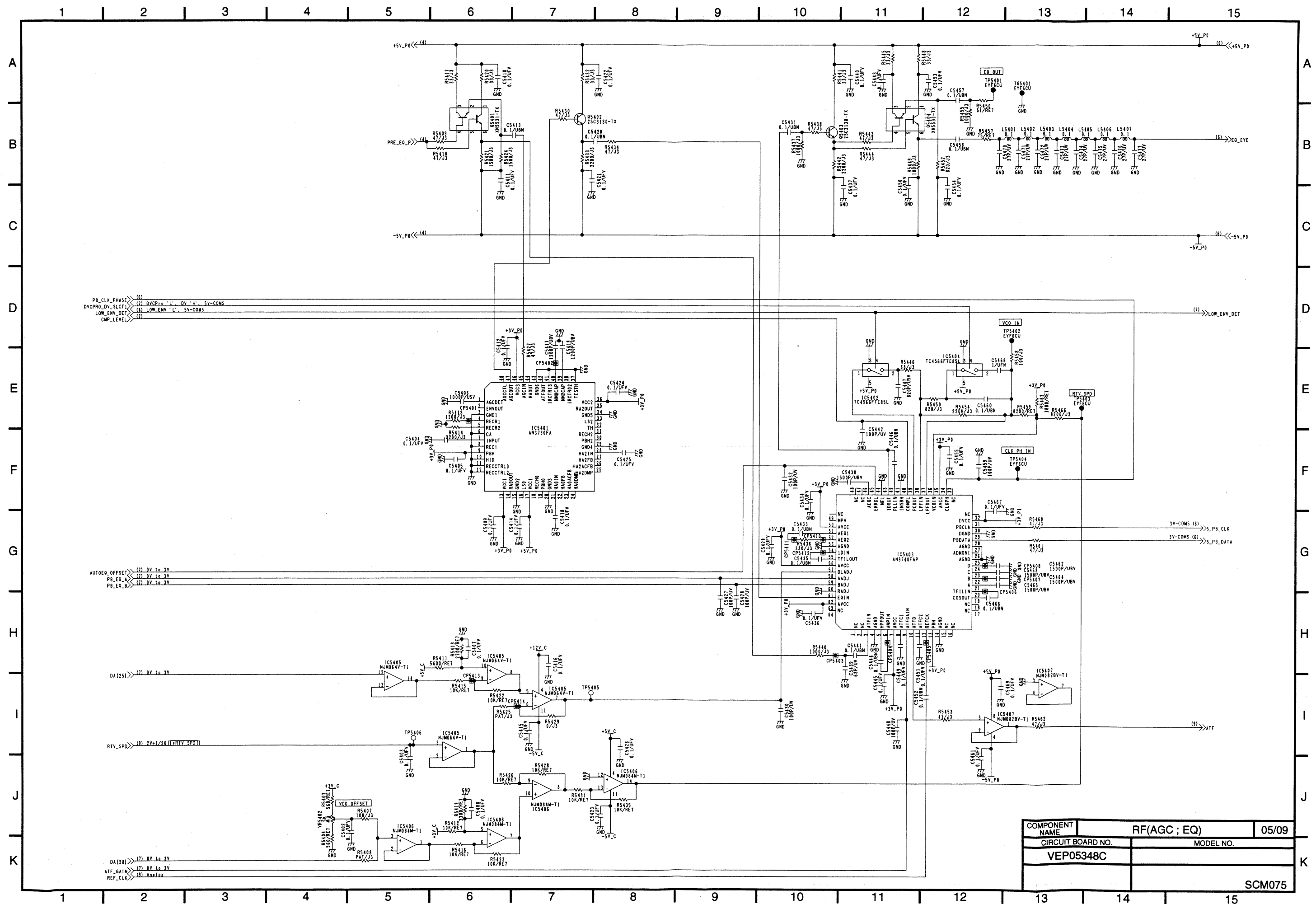


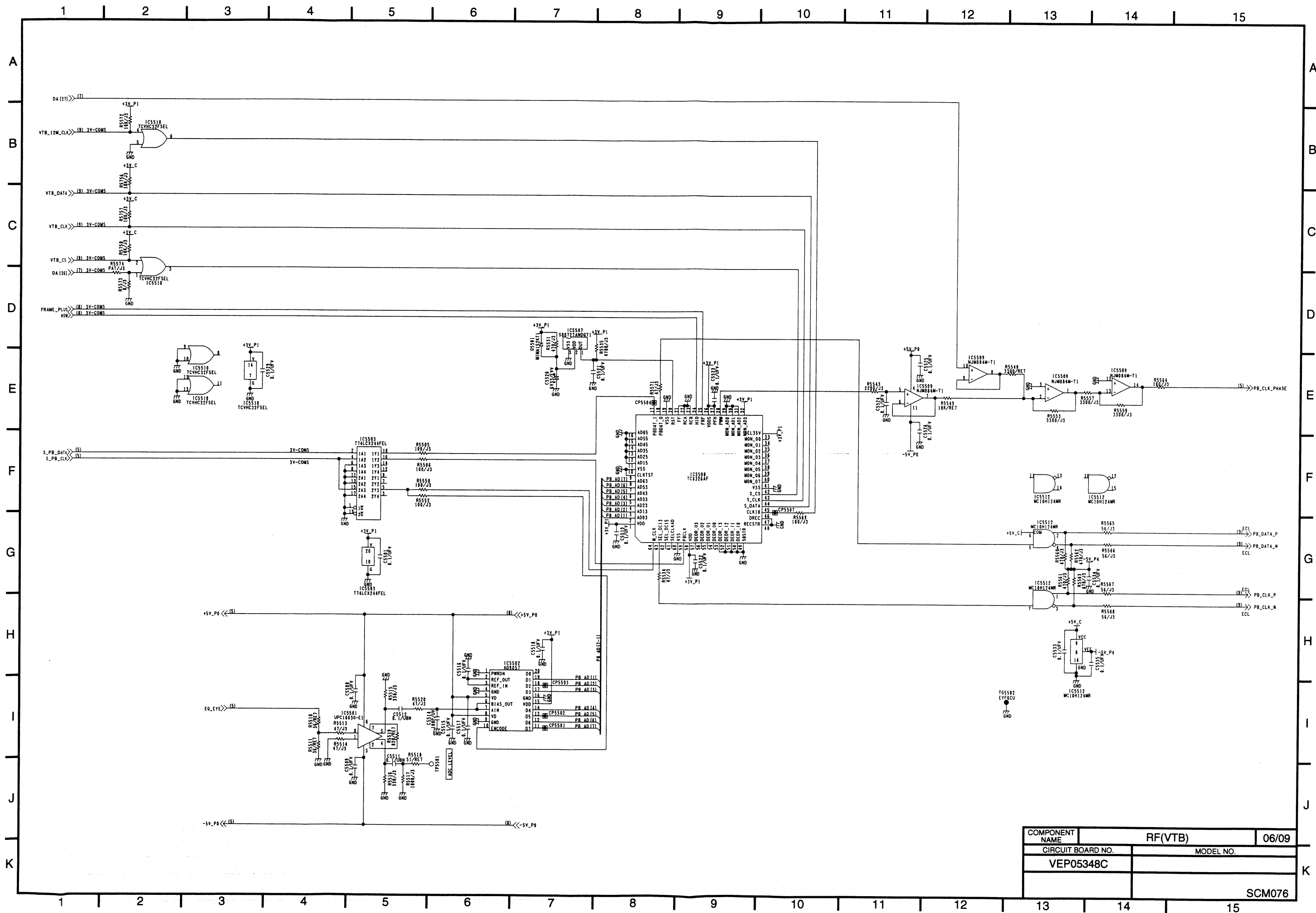
COMPONENT NAME	RF(RE DRIVER)	02/09
CIRCUIT BOARD NO.	VEP05348C	MODEL NO.
		SCM072

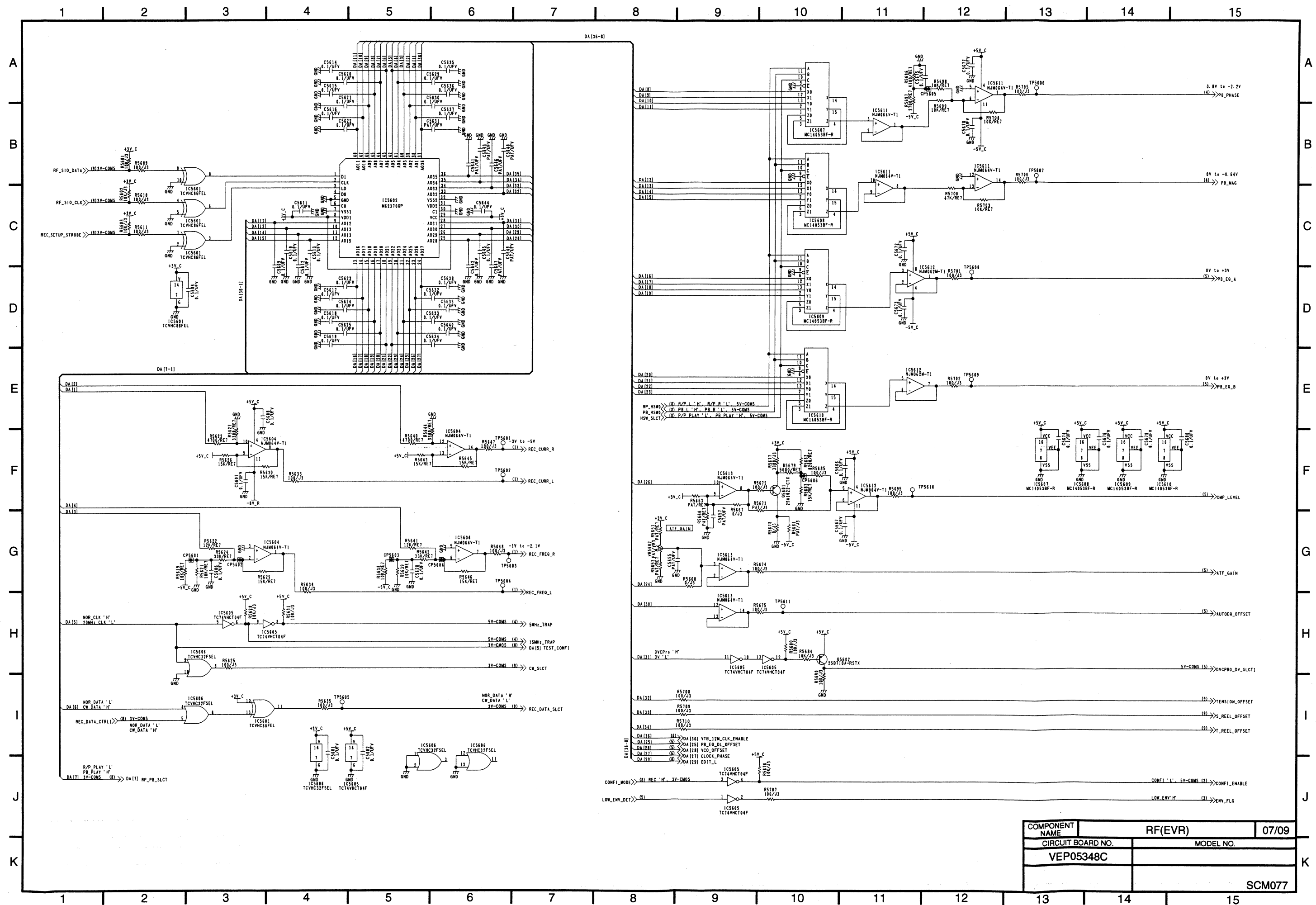


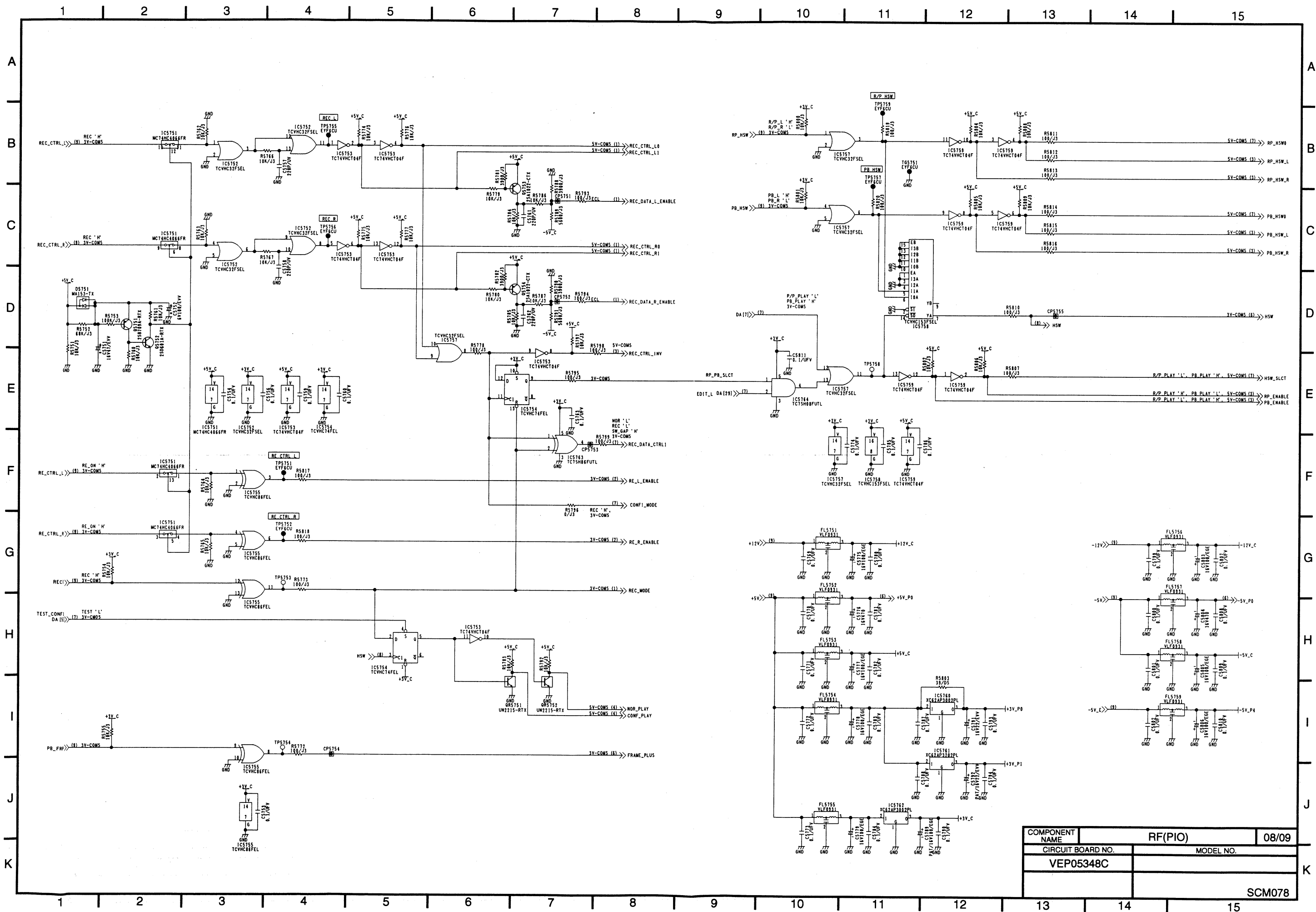
COMPONENT NAME	RF(HEAD AMP)		03/09
CIRCUIT BOARD NO.	MODEL NO.		
VEP05348C			
	SCM073		

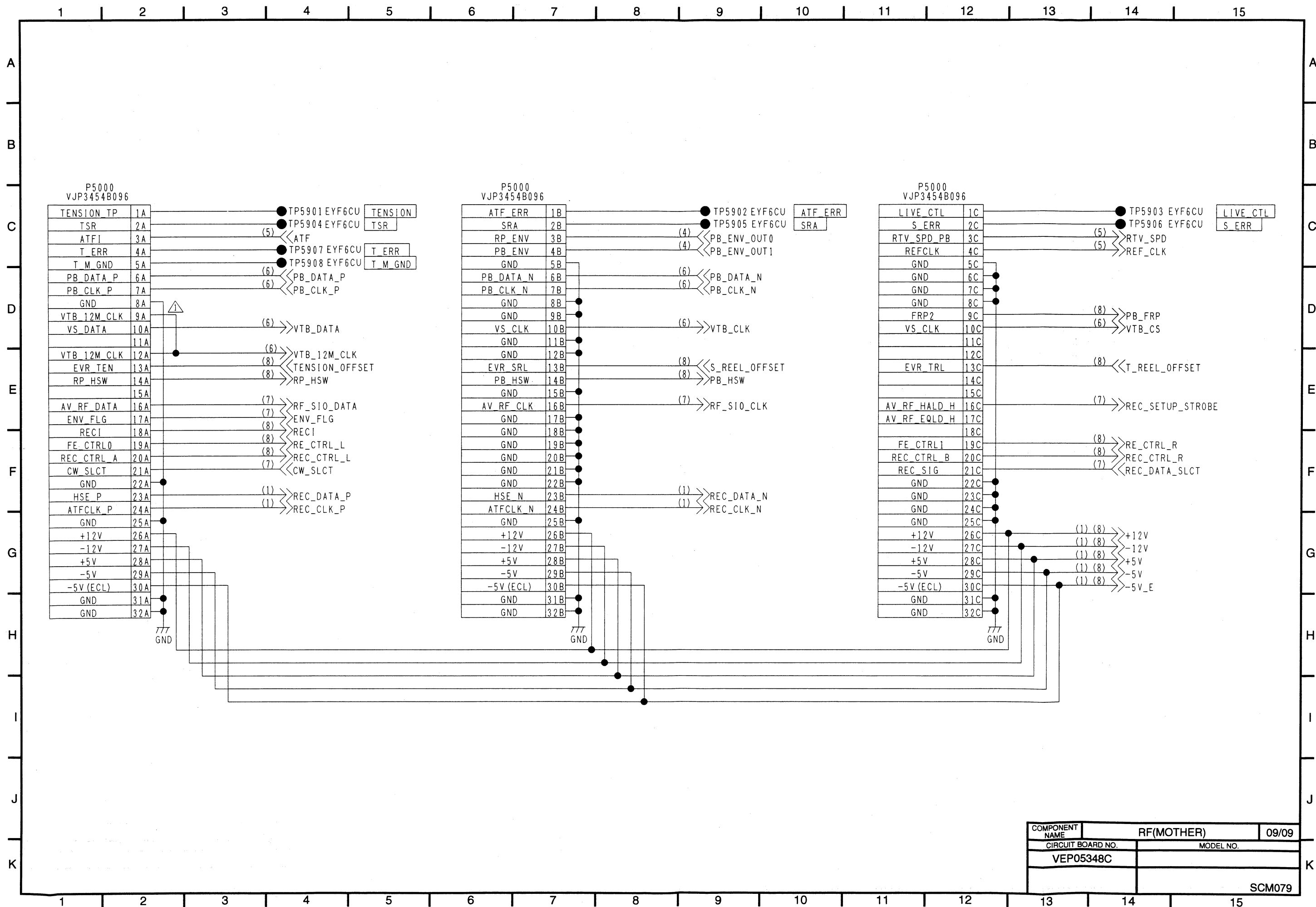












COMPONENT NAME	RF(MOTHER)	09/09
CIRCUIT BOARD NO.	VEP05348C	MODEL NO.
		SCM079


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

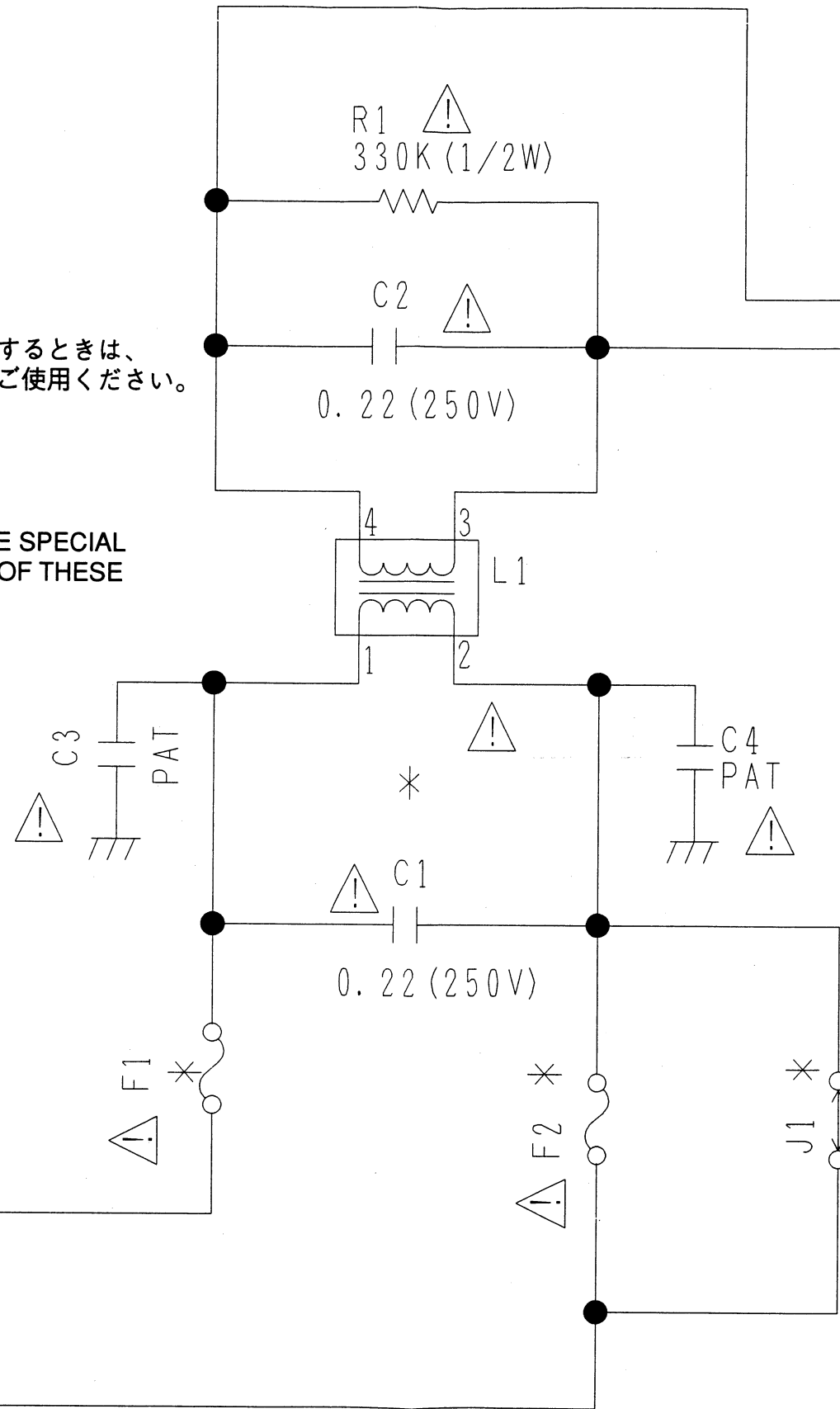
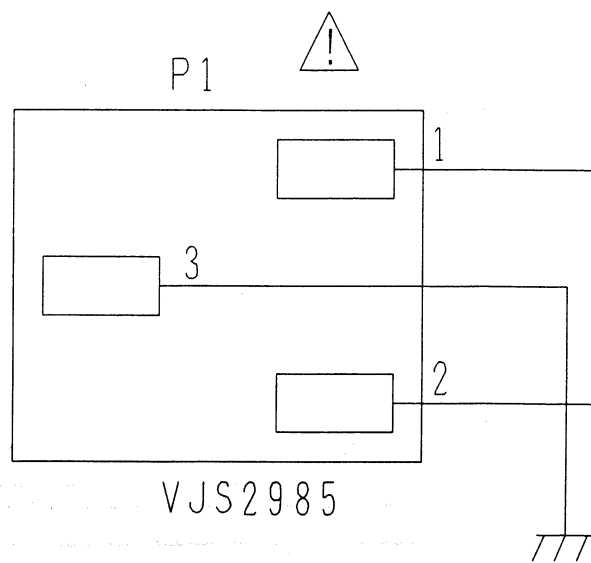
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IMPORTANT SAFETY NOTICE:
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4	HOT
1	COLD

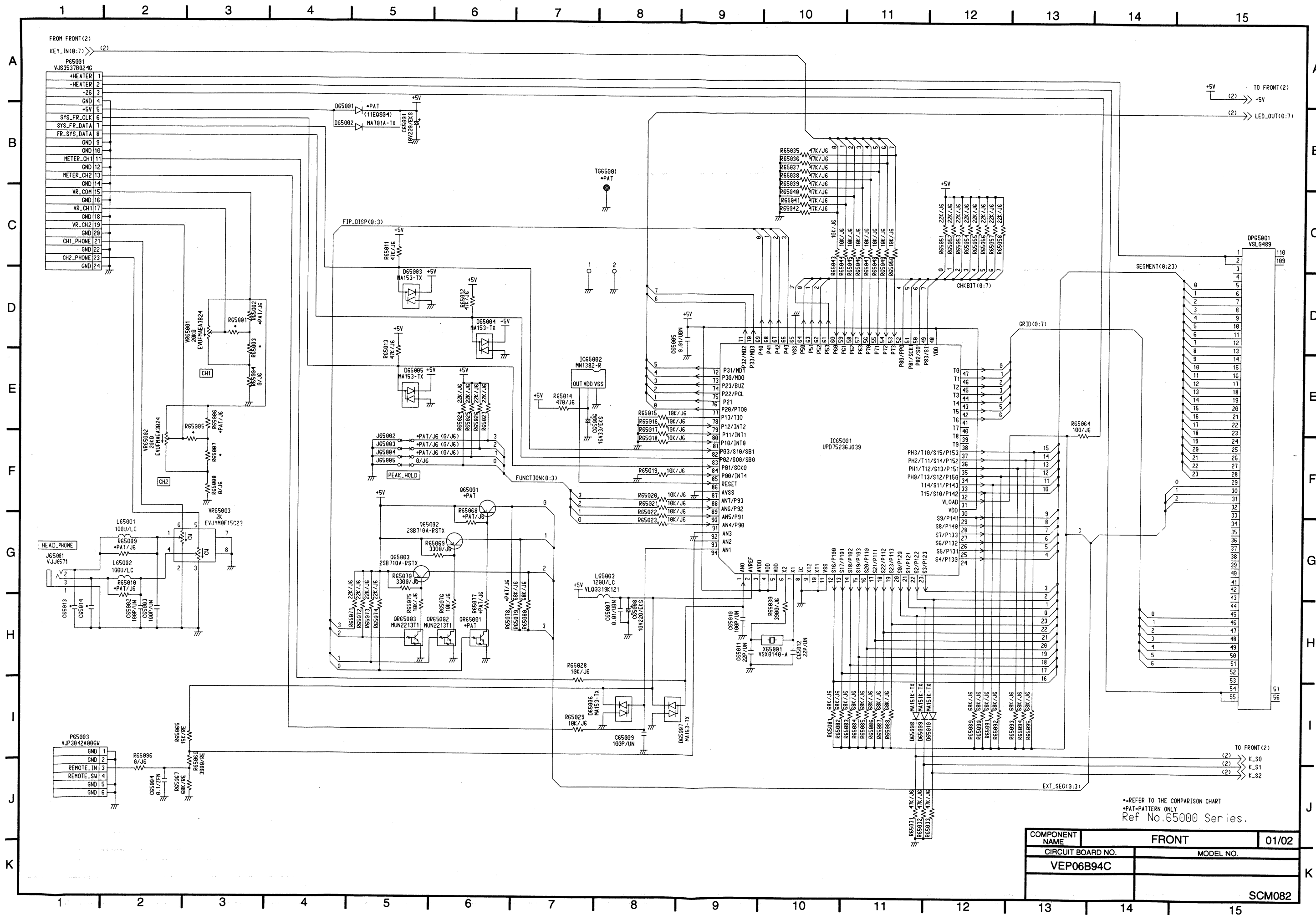
VJP2639
P2

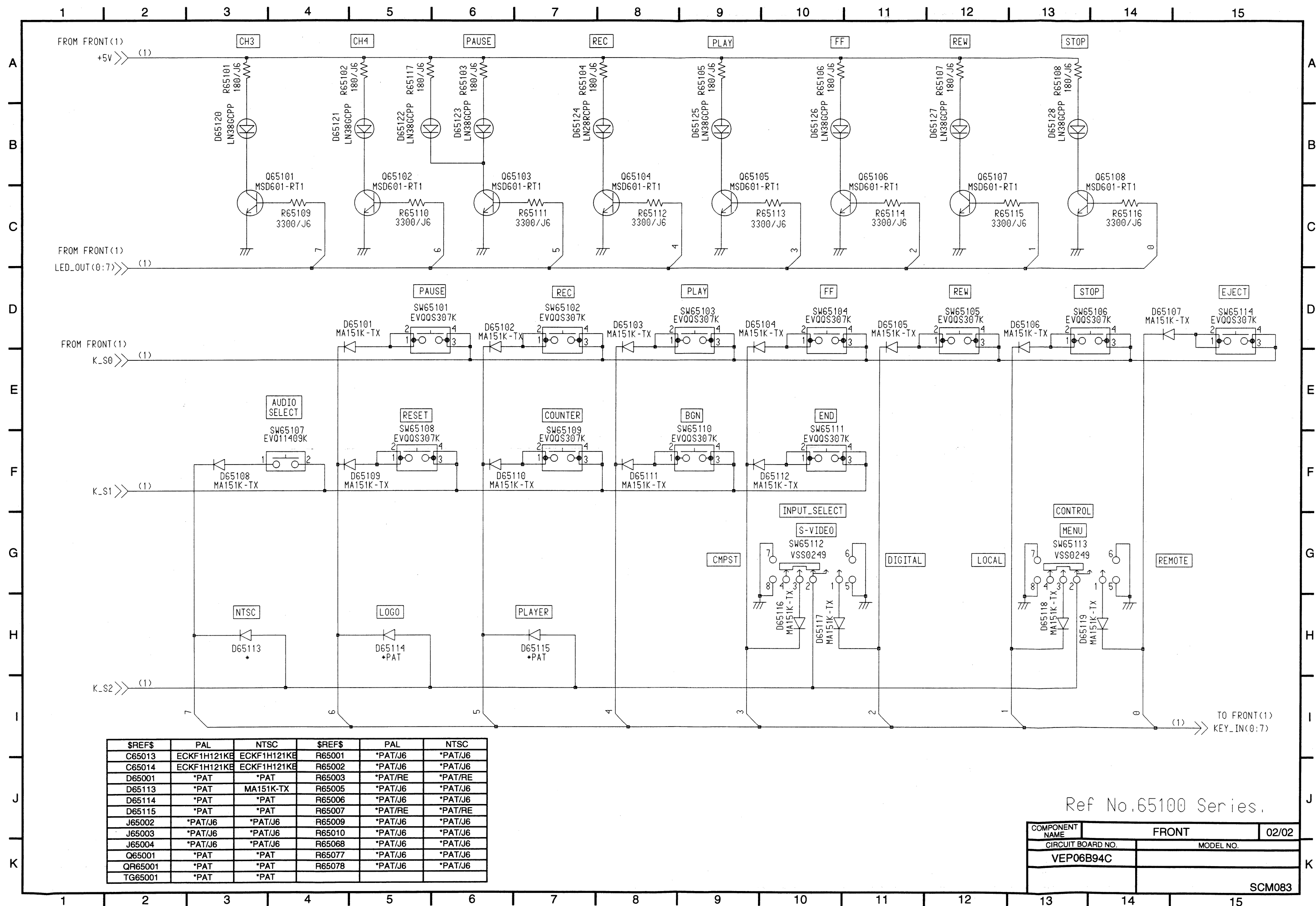
With VJF0867

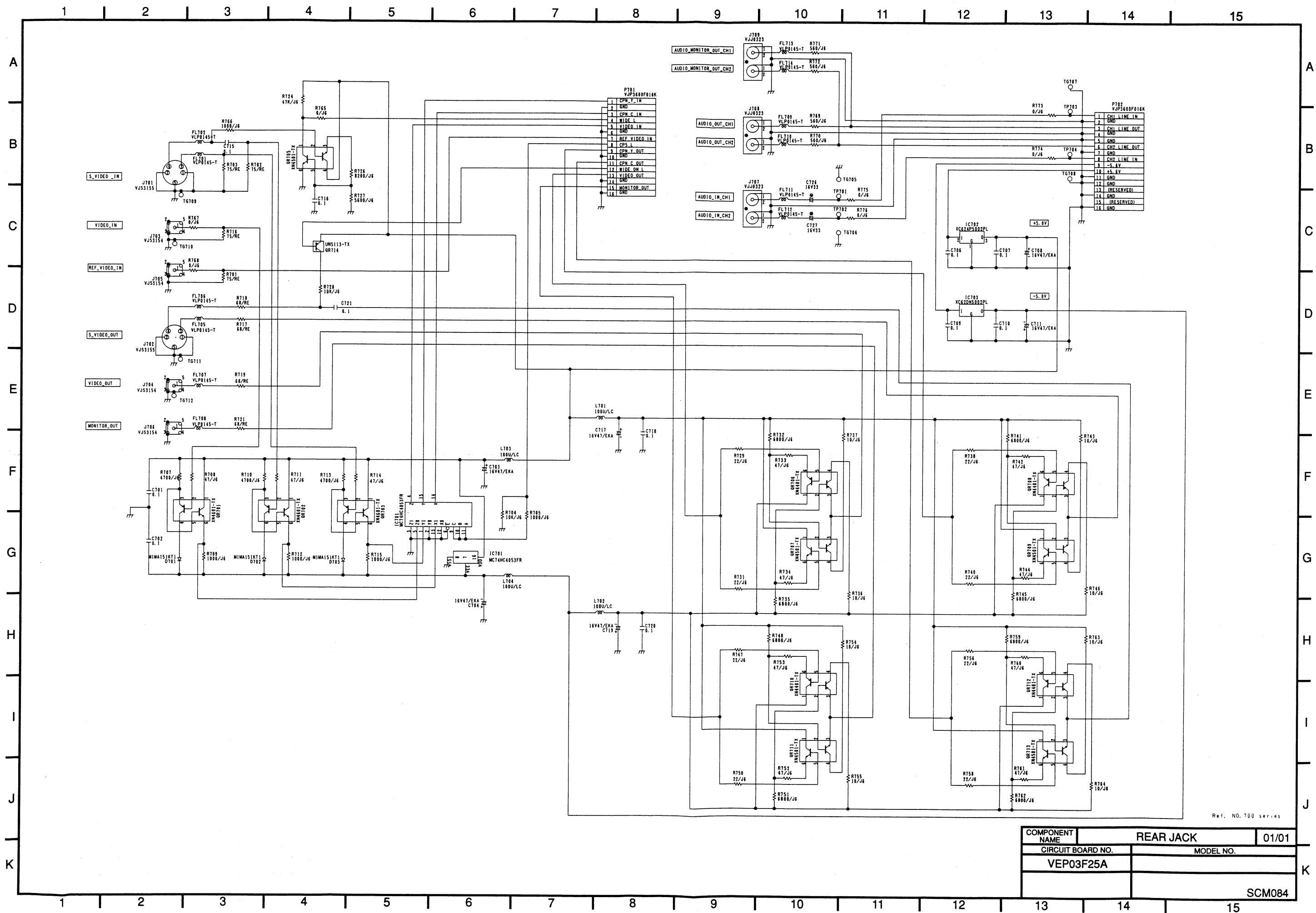
REF. NO. 1100 SERIES

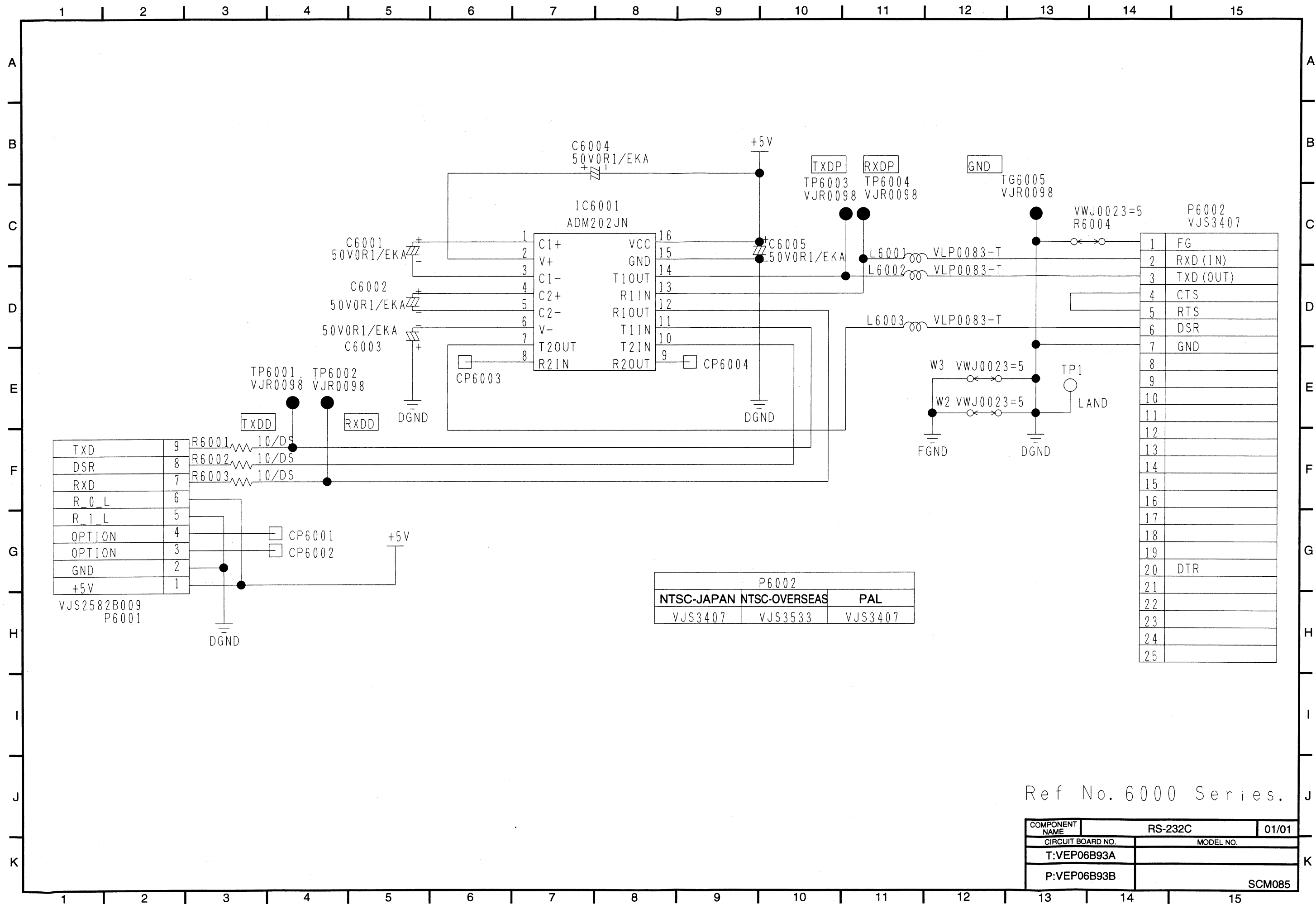
COMPONENT NAME	POWER 1	01/01
CIRCUIT BOARD NO.	MODEL NO.	
VEP01791A		
		SCM080

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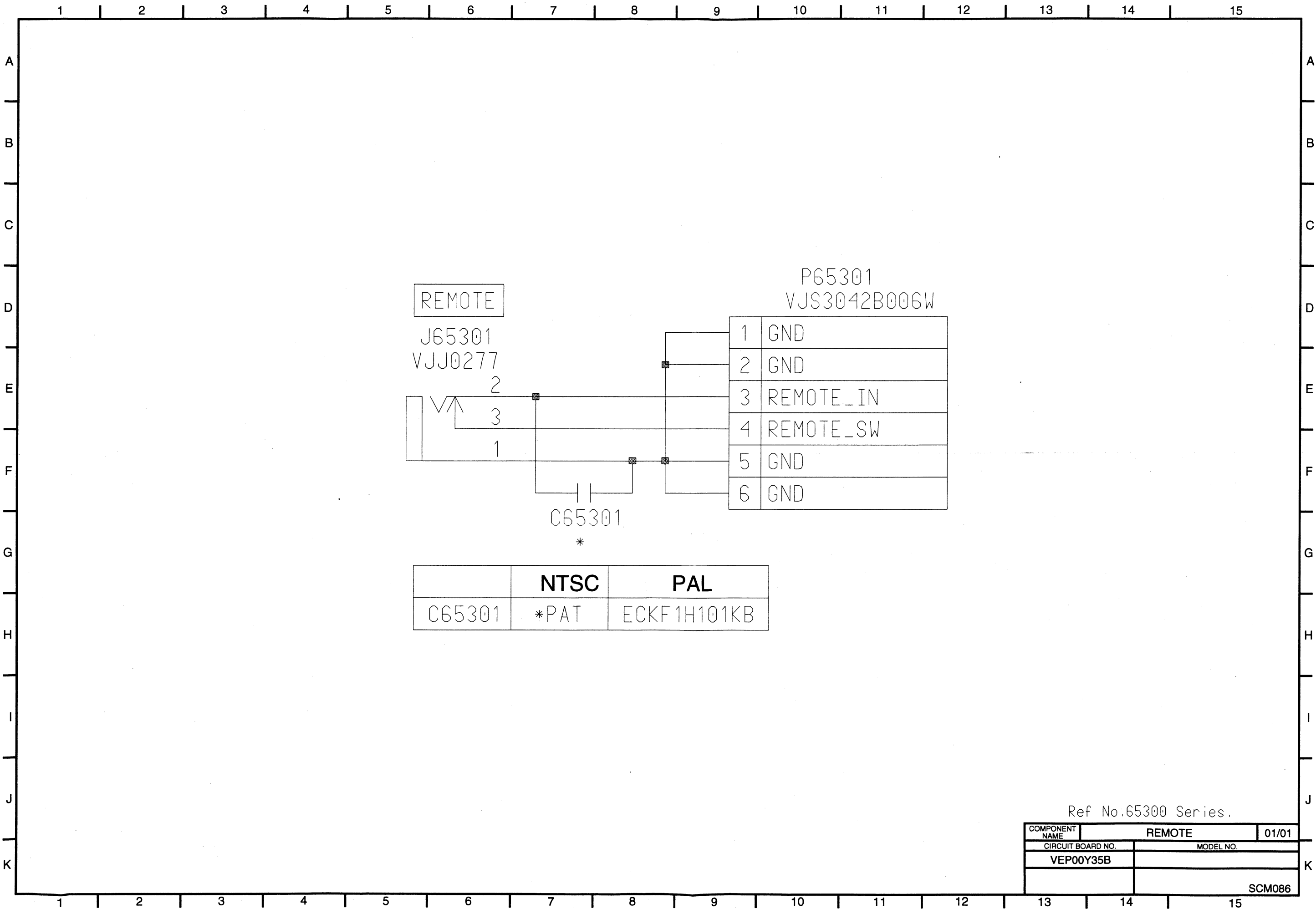






Ref No. 6000 Series.

COMPONENT NAME	RS-232C	01/01
CIRCUIT BOARD NO.	MODEL NO.	
T:VEP06B93A		
P:VEP06B93B	SCM085	



SECTION 7

CIRCUIT BOARD DIAGRAMS

CONTENS


REMOTE P.C. BOARD	CBA-1
RS-232C P.C. BOARD	CBA-1
FRONT P.C. BOARD (COMPONENT SIDE)	CBA-2
FRONT P.C. BOARD (FOIL SIDE)	CBA-3
RF P.C. BOARD (COMPONENT SIDE)	CBA-4
RF P.C. BOARD (FOIL SIDE)	CBA-5
AUDIO P.C. BOARD	CBA-6
AV SYS P.C. BOARD	CBA-7
VIDEO I/O P.C. BOARD	CBA-8
TBC P.C. BOARD	CBA-9
DIGITAL CORE P.C. BOARD	CBA-10
SERVO P.C. BOARD	CBA-11
MOTHER P.C. BOARD (COMPONENT SIDE)	CBA-12
MOTHER P.C. BOARD (FOIL SIDE)	CBA-13
REAR JACK P.C. BOARD	CBA-14
POWER 1 P.C. BOARD	CBA-15
POWER 2 P.C. BOARD	CBA-15

IMPORTANT SAFETY NOTICE

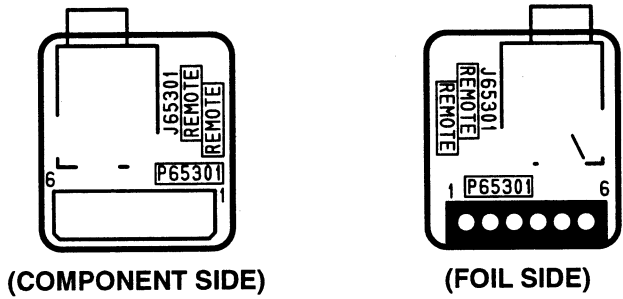
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY THE SAME TYPE.

DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

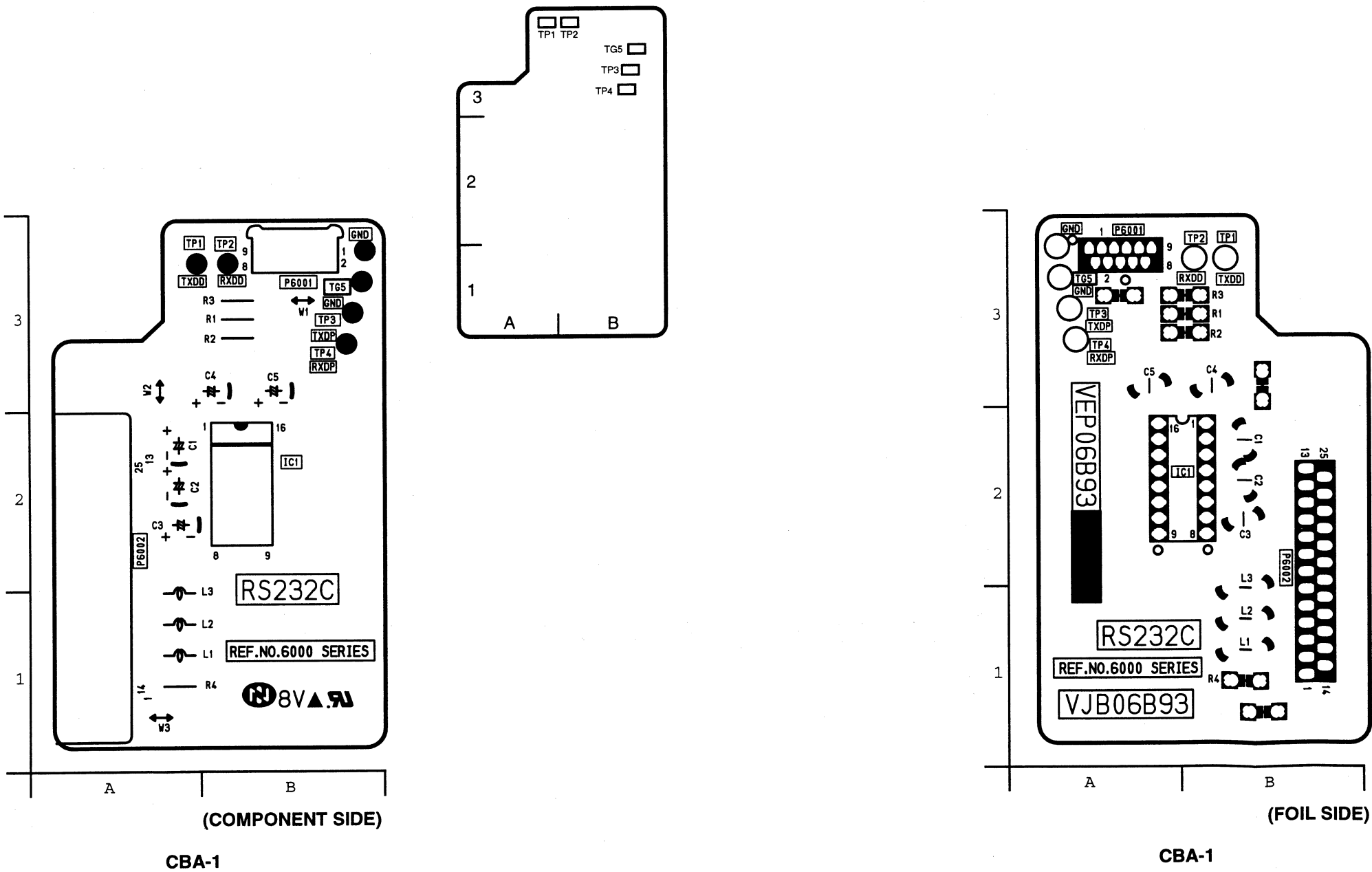
CAUTION

THE  MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.

REMOTE P.C.BOARD (VEP00Y35B)



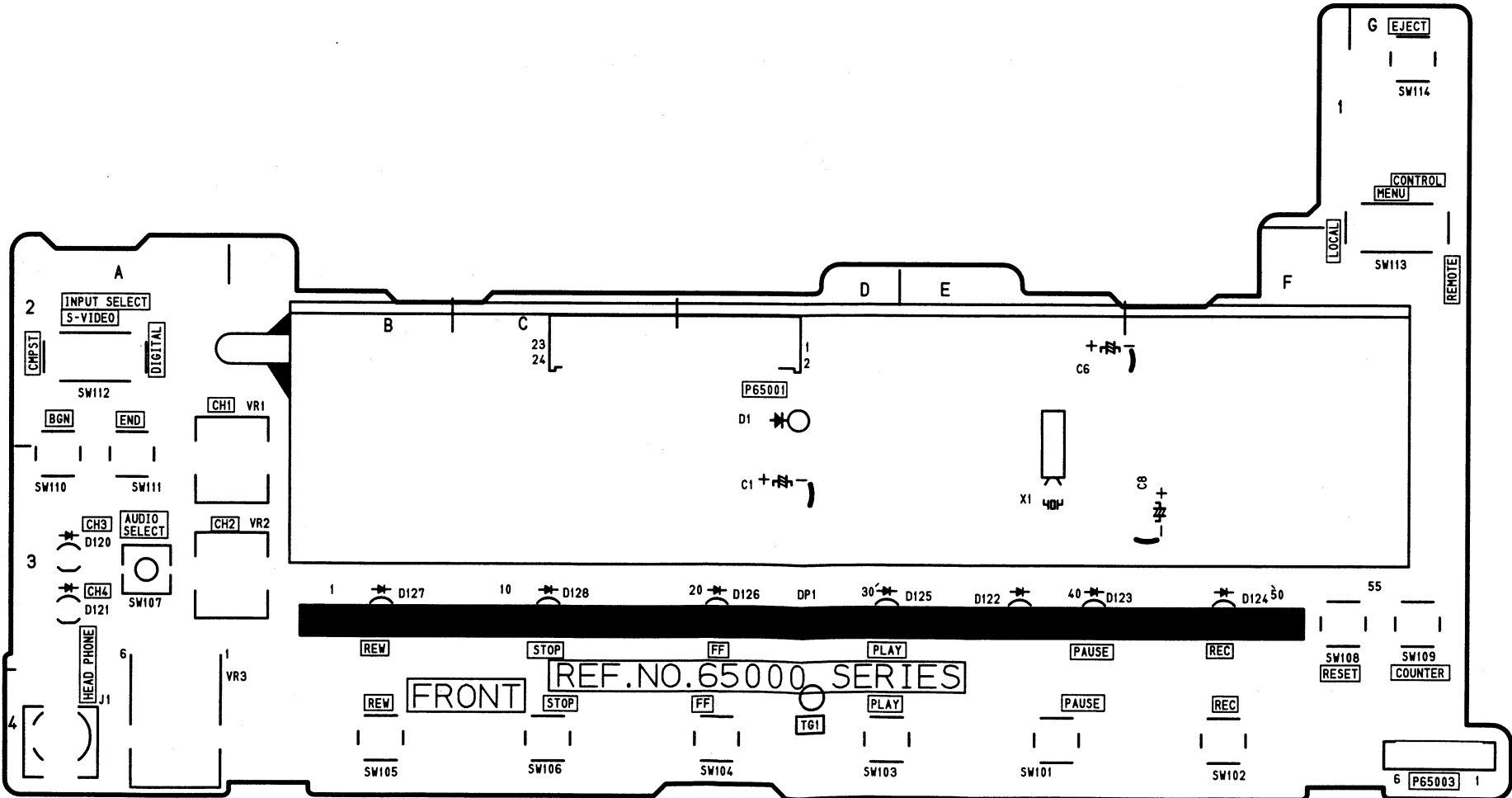
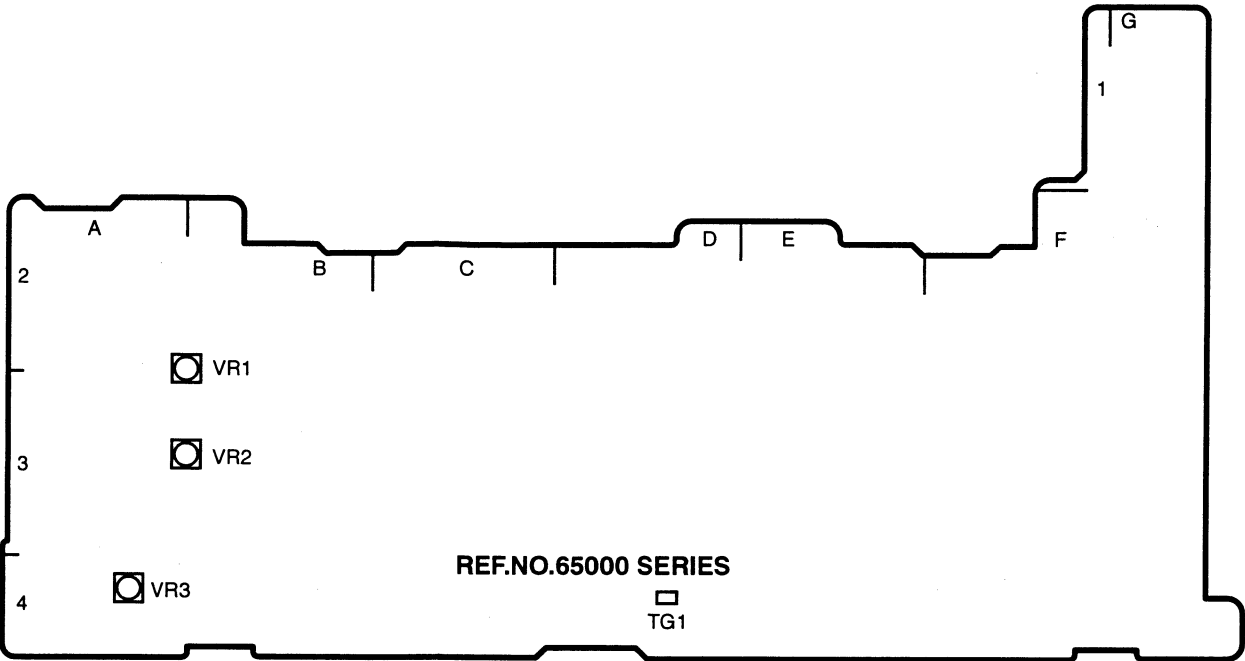
RS-232C P.C.BOARD (FOR JAPAN:VEP06B93A, FOR OVERSEAS:VEP06B93B)



FRONT P.C.BOARD (VEP06B94C)

COMPONENT SIDE

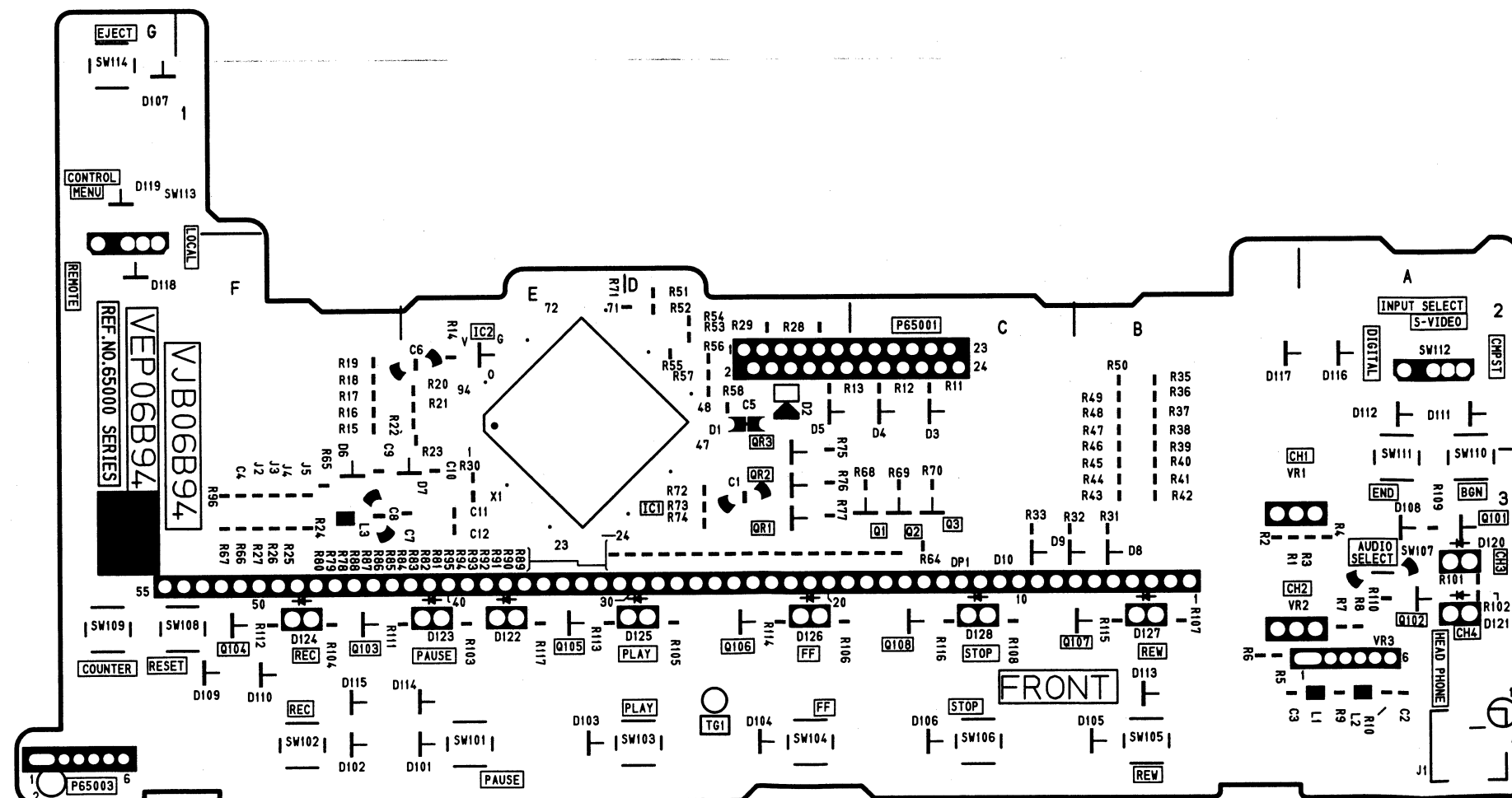
REF	LOC
P65001	C2
P65003	G4
VR65001	B2
VR65002	B3
VR65003	A4



(COMPONENT SIDE)

FOIL SIDE

REF	LOC	REF	LOC
IC65001	E2	Q65104	F3
IC65002	E2	Q65105	E3
Q65002	C3	Q65106	D3
Q65003	C3	Q65107	B3
Q65101	A3	Q65108	C3
Q65102	A3	QR65002	D3
Q65103	F3	QR65003	D3



(FOIL SIDE)

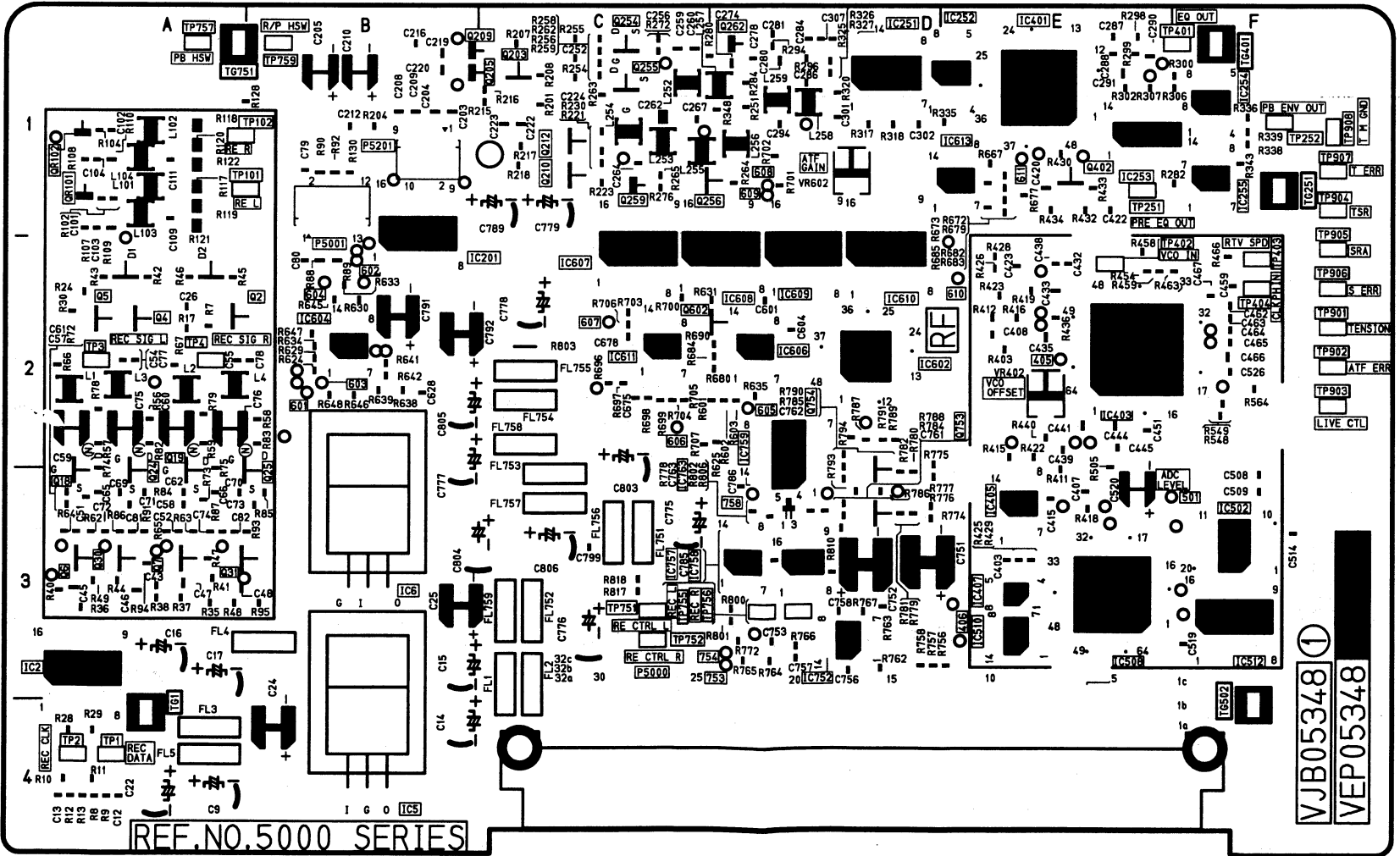
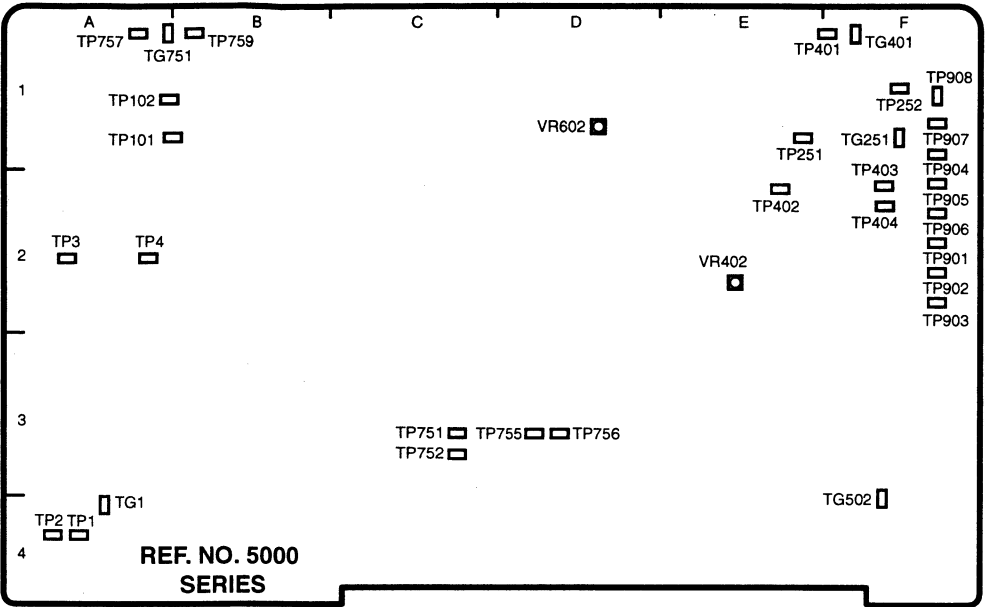
CBA-3

CBA-3

RF P.C.BOARD (VEP05348C)

COMPONENT SIDE

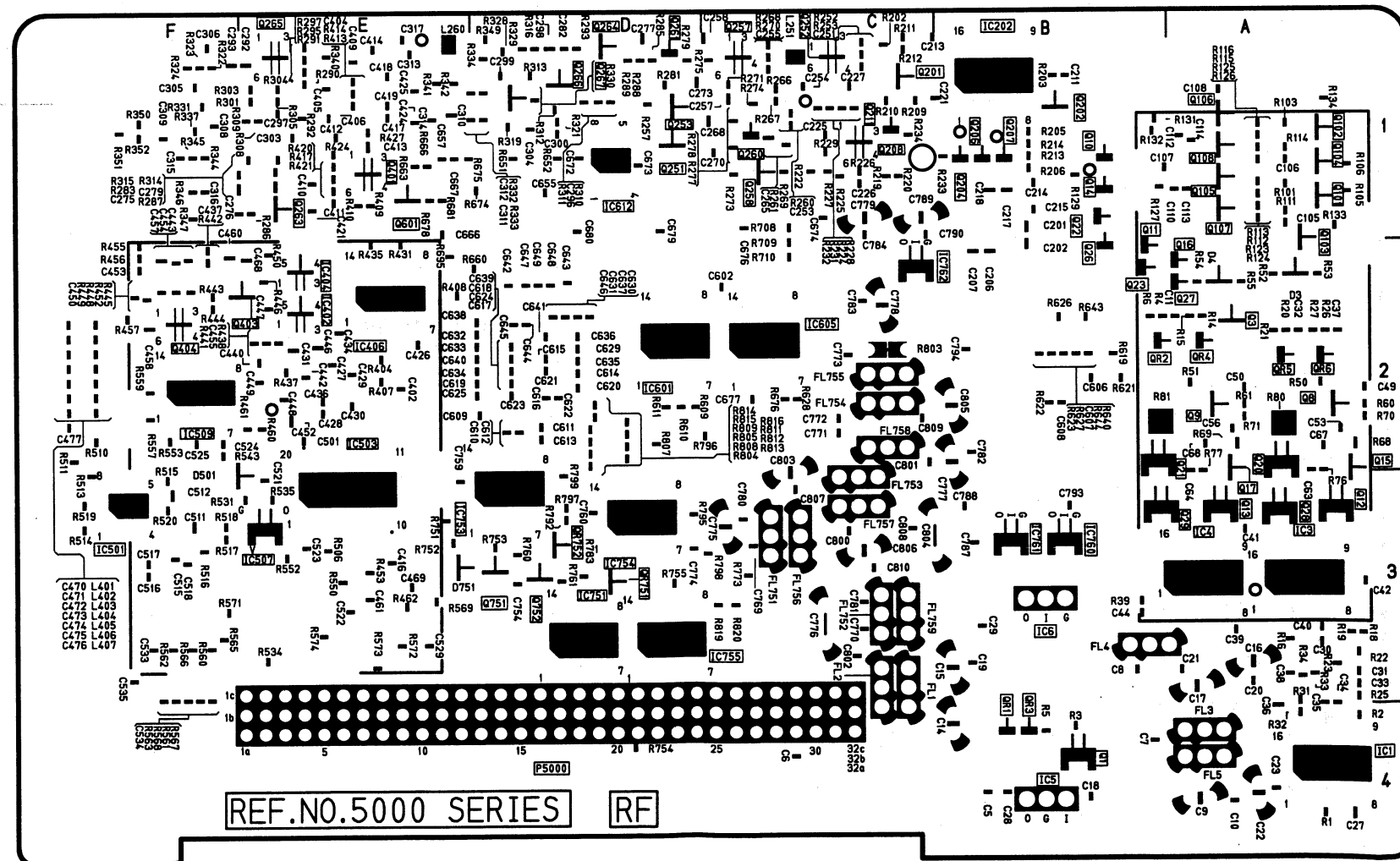
REF	LOC	REF	LOC
IC5002	A3	Q5205	B1
IC5005	B4	Q5209	B1
IC5006	B3	Q5210	C1
IC5201	B2	Q5212	C1
IC5251	D1	Q5254	C1
IC5252	E1	Q5255	C1
IC5253	E1	Q5256	C1
IC5254	F1	Q5259	C1
IC5401	E1	Q5262	D1
IC5403	E2	Q5402	E1
IC5405	E3	Q5602	C2
IC5407	E3	Q5754	D2
IC5502	F3	Q5763	E2
IC5508	E3	QH5101	A1
IC5510	E3	QH5102	A1
IC5512	F3	TG5001	A4
IC5602	D2	TG5251	F1
IC5604	B2	TG5401	F1
IC5606	D2	TG5502	F4
IC5607	C2	TG5751	A1
IC5608	D2	TP5001	A4
IC5609	D2	TP5002	A4
IC5610	D2	TP5003	A2
IC5611	C2	TP5004	A2
IC5613	E1	TP5101	A1
IC5752	D3	TP5102	A1
IC5757	C3	TP5251	E1
IC5759	D2	TP5252	F1
IC5763	C3	TP5401	F1
IC5768	C3	TP5402	E2
P5000	C3	TP5404	F2
P5001	B1	TP5751	C3
P5201	B1	TP5755	C3
Q5002	A2	TP5757	A1
Q5004	A2	TP5759	B1
Q5005	A2	TP5766	C3
Q5006	A3	TP5901	F2
Q5007	A3	TP5902	F2
Q5018	A3	TP5903	F2
Q5019	A2	TP5904	F1
Q5024	A2	TP5905	F2
Q5030	A3	TP5906	F2
Q5031	A3	TP5907	F1
Q5203	C1	TP5908	F1



(COMPONENT SIDE)

FOIL SIDE

REF	LOC	REF	LOC
IC5001	A4	Q5026	B2
IC5003	A3	Q5027	A2
IC5004	A3	Q5028	A3
IC5005	B4	Q5029	A3
IC5006	B3	Q5101	A1
IC5202	B1	Q5102	A1
IC5402	E2	Q5103	A1
IC5404	E2	Q5104	A1
IC5406	E2	Q5105	A1
IC5501	F3	Q5106	A1
IC5503	E2	Q5107	A1
IC5507	E3	Q5108	A1
IC5509	F2	Q5201	C1
IC5601	D2	Q5202	B1
IC5605	C2	Q5204	B1
IC5612	D1	Q5206	B1
IC5751	D3	Q5207	B1
IC5753	E3	Q5208	C1
IC5754	D3	Q5211	C1
IC5755	C3	Q5251	D1
IC5760	B3	Q5252	C1
IC5761	B3	Q5253	D1
IC5762	B2	Q5257	C1
P5000	D4	Q5260	C1
Q5001	B4	Q5261	D1
Q5003	A2	Q5263	E1
Q5004	A2	Q5264	D1
Q5005	A2	Q5265	E1
Q5006	A2	Q5266	D1
Q5010	B1	Q5267	D1
Q5011	B1	Q5401	E1
Q5012	A3	Q5403	E2
Q5013	A3	Q5404	F2
Q5014	B1	Q5601	E1
Q5015	A2	Q5725	D3
Q5016	A2	Q5751	D3
Q5017	A3	QR5001	B4
Q5020	A2	QR5002	B2
Q5021	A2	QR5003	B4
Q5022	B1	QR5751	D3
Q5023	B2	QR5752	D3



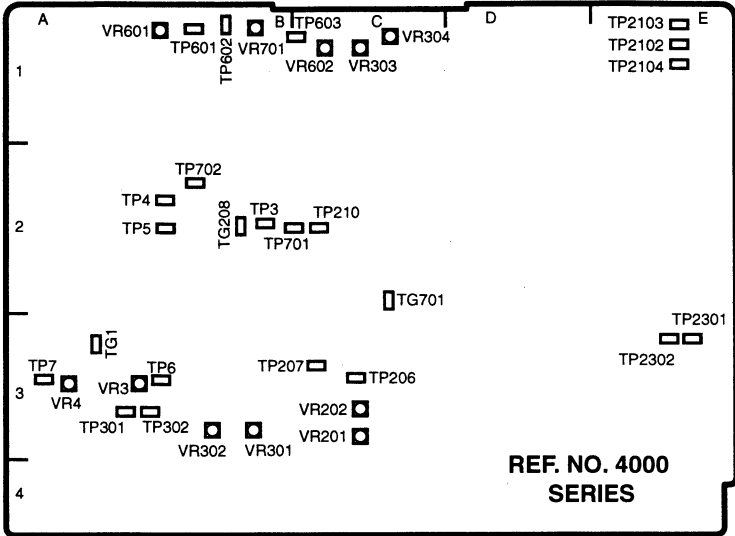
(FOIL SIDE)

CBA-5

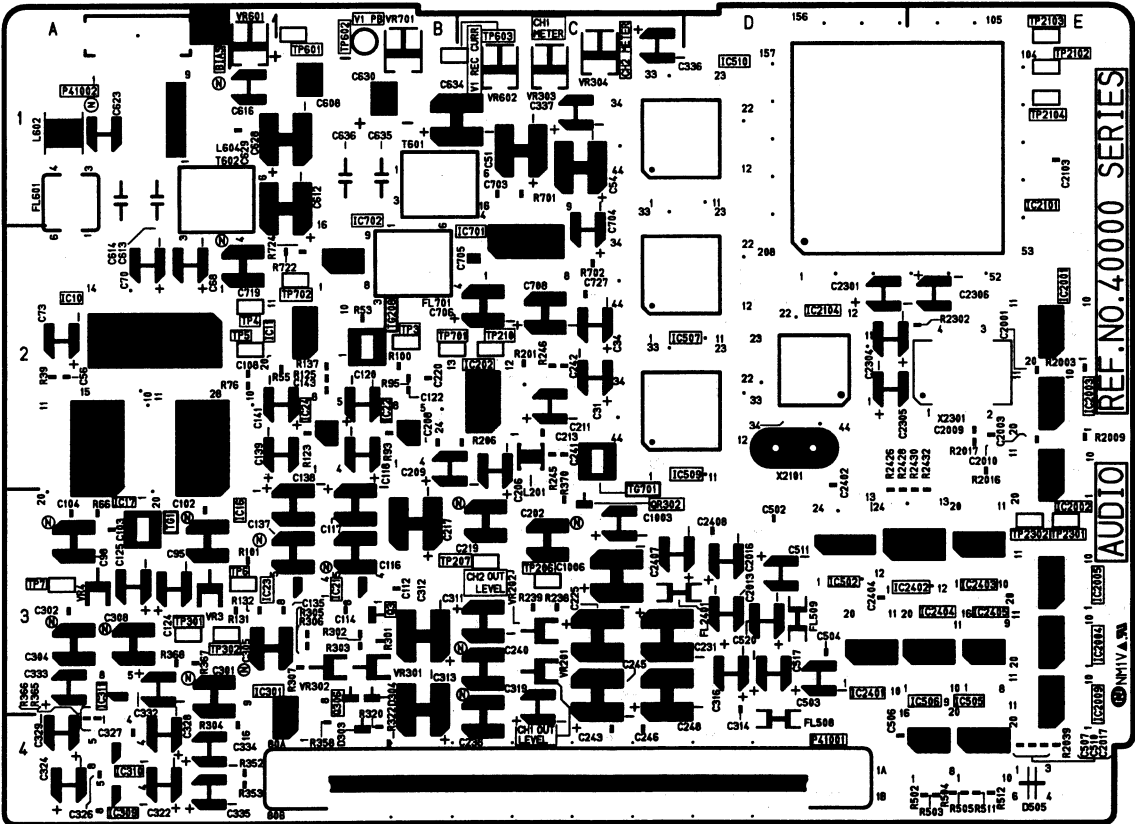
CBA-5

AUDIO P.C.BOARD (VEP04737A)

COMPONENT SIDE			
REF	LOC	REF	LOC
IC40010	A2	Q40003	B3
IC40011	B2	Q40306	B3
IC40016	A2	QR40302	C3
IC40017	A2	TG40001	A3
IC40021	B3	TG40208	B2
IC40022	B2	TG40701	C2
IC40023	B3	TP40003	B2
IC40024	B2	TP40004	A2
IC40202	C2	TP40005	A2
IC40301	B4	TP40006	A3
IC40309	A4	TP40007	A3
IC40310	A4	TP40206	C3
IC40311	A3	TP40207	C3
IC40502	D3	TP40210	C2
IC40505	E4	TP40301	A3
IC40506	E4	TP40302	A3
IC40507	D2	TP40601	B1
IC40509	D2	TP40603	C1
IC40510	D1	TP40701	C2
IC40701	C2	TP40702	B2
IC40702	B2	TP42102	E1
IC42001	E2	TP42103	E1
IC42002	E2	TP42104	E1
IC42003	E2	TP42301	E3
IC42004	E3	TP42302	E3
IC42005	E3	VR40003	A3
IC42009	E3	VR40004	A3
IC42101	E1	VR40201	C3
IC42104	D2	VR40202	C3
IC42401	D3	VR40301	B3
IC42402	E3	VR40302	B3
IC42403	E3	VR40303	C1
IC42404	E3	VR40304	C1
IC42405	E3	VR40601	A1
P41001	C4	VR40602	C1
P41002	A1	VR40701	B1

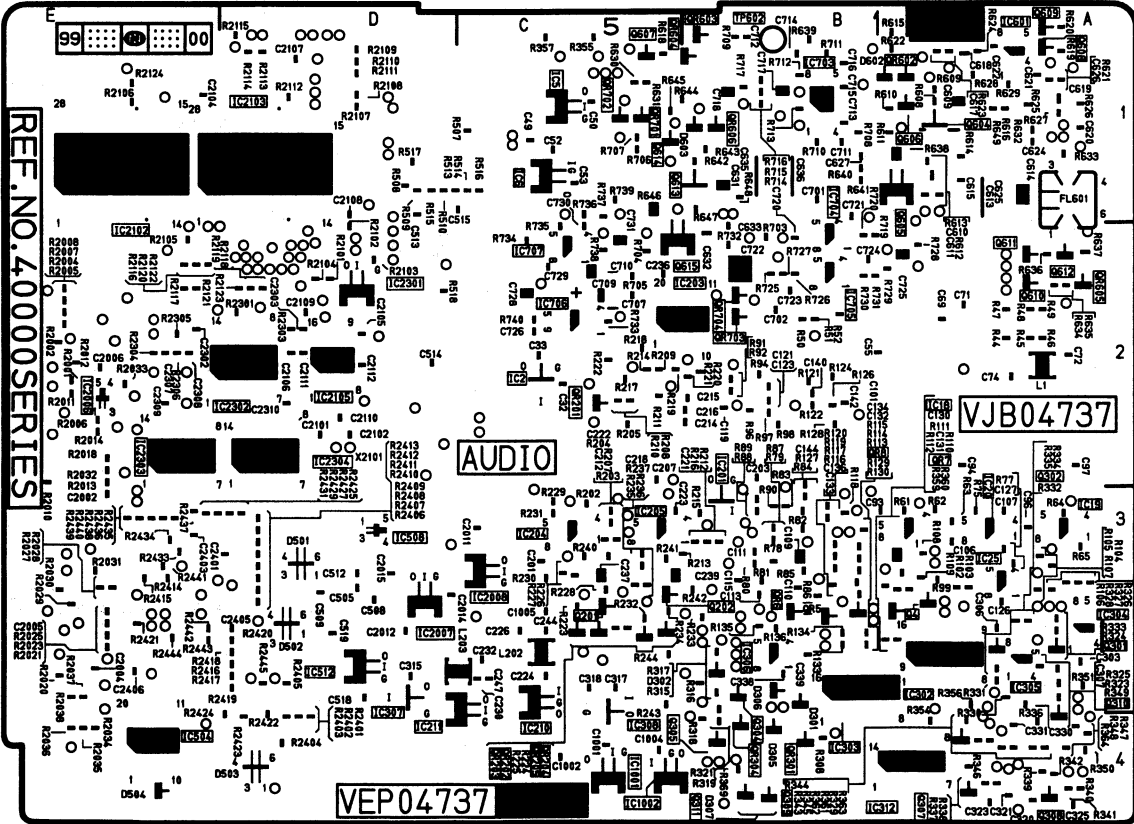


FOIL SIDE					
REF	LOC	REF	LOC	REF	LOC
IC40002	C2	Q40202	C3	IC42105	D2
IC40005	C1	Q40301	A3	IC42301	D2
IC40006	C1	Q40302	A3	IC42302	D2
IC40018	A3	Q40304	B3	IC42303	E2
IC40019	A3	Q40305	B4	IC42304	D2
IC40020	A3	Q40307	A4	Q40004	A3
IC40025	A3	Q40308	A4	Q40201	C3
IC40201	B3	Q40309	A4	QR40606	B1
IC40203	C2	Q40310	A4	QR40701	C1
IC40204	C3	Q40311	B4	QR40702	C1
IC40205	C3	Q40604	A1	QR40703	B2
IC40210	C4	Q40605	A1	QR40704	B2
IC40211	C4	Q40606	A1		
IC40302	A3	Q40607	C1		
IC40303	B4	Q40608	A1		
IC40304	A3	Q40609	A1		
IC40305	A3	Q40610	A2		
IC40306	B3	Q40611	A2		
IC40307	D4	Q40612	A2		
IC40308	C4	Q40613	B1		
IC40312	A4	Q40614	C1		
IC40504	E4	Q40615	C2		
IC40508	D3	QR40005	B3		
IC40512	D3	QR40006	B3		
IC40601	A1	QR40007	A3		
IC40703	B1	QR40008	B3		
IC40704	B2	QR40201	C2		
IC40705	B2	QR40202	C3		
IC40706	C2	QR40203	C3		
IC40707	C2	QR40204	C3		
IC41001	C4	QR40205	C3		
IC41002	C4	QR40301	B4		
IC42006	E2	QR40304	B4		
IC42007	D3	QR40602	A1		
IC42008	C3	QR40603	B1		
IC42102	E1	QR40604	B1		
IC42103	D1	QR40605	A2		



(COMPONENT SIDE)

CBA-6

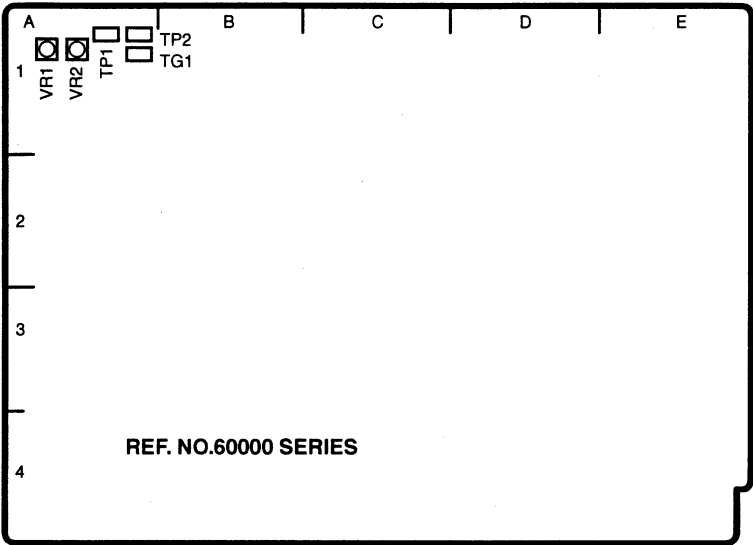


(FOIL SIDE)

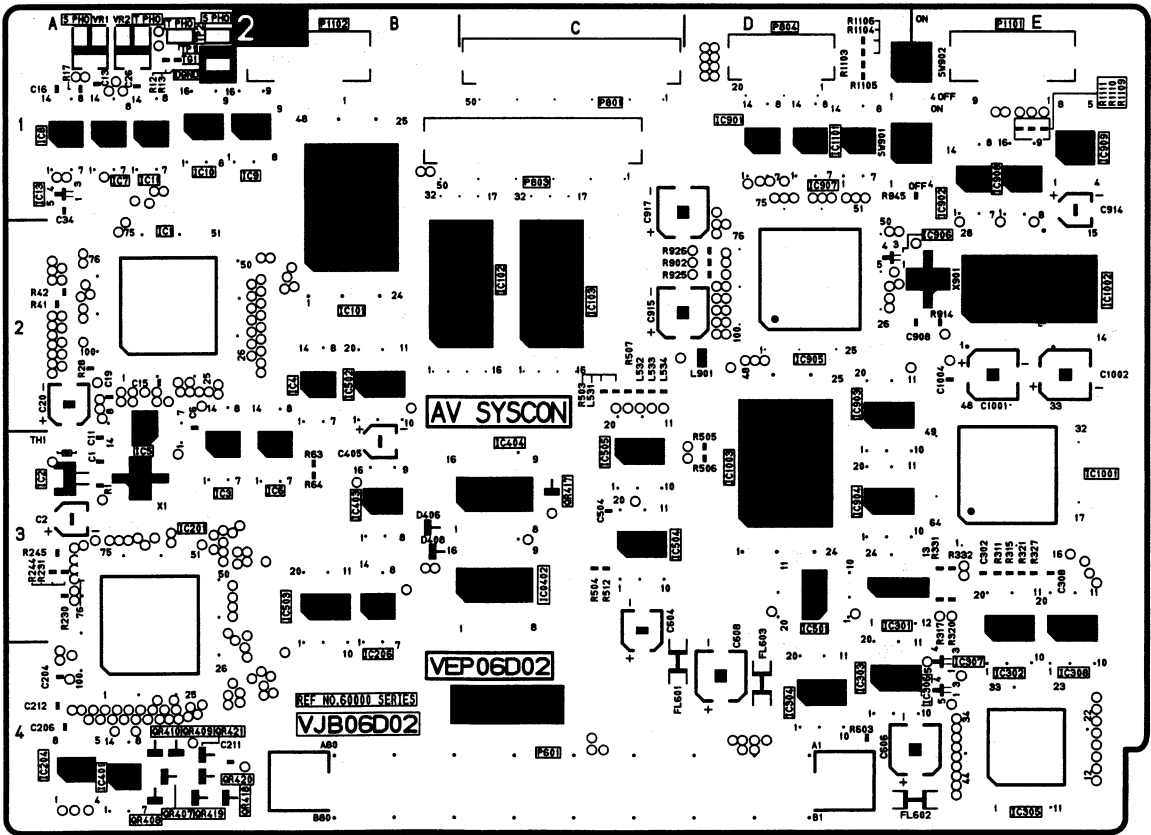
CBA-6

AV SYS P.C.BOARD (VEP06D02A)

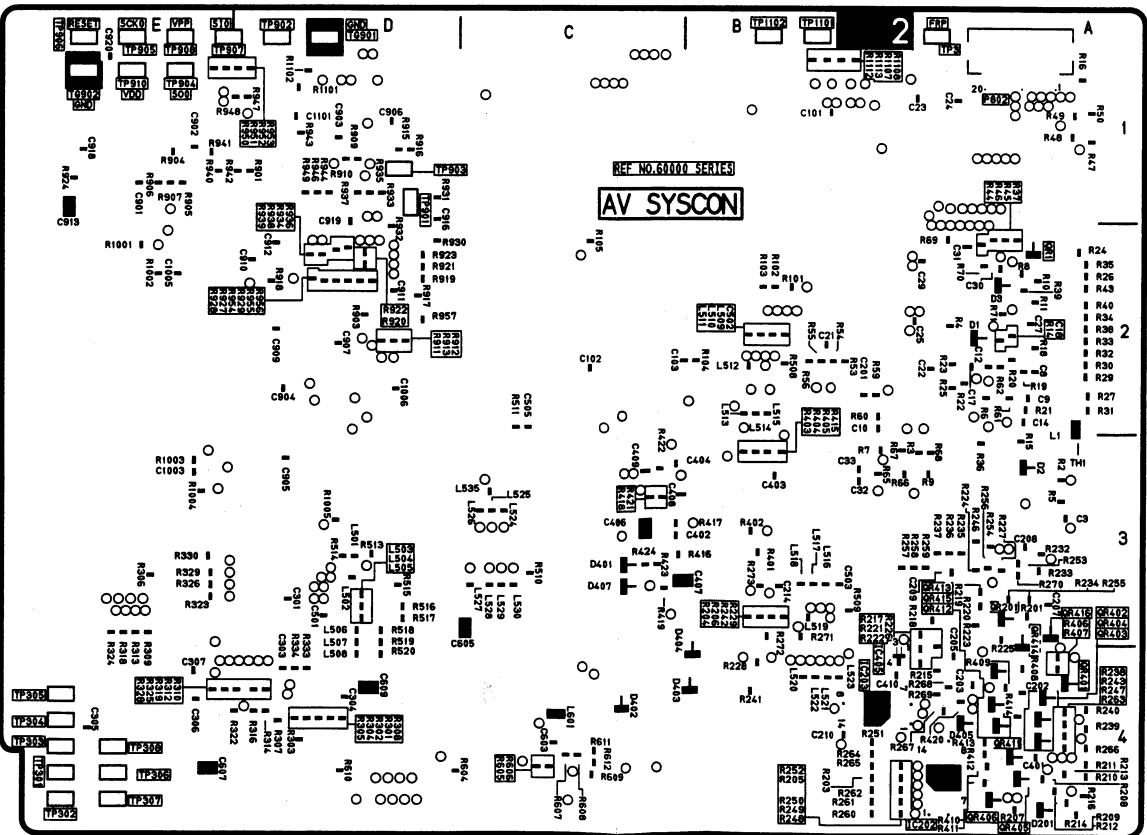
COMPONENT SIDE			
REF	LOC	REF	LOC
IC60001	A2	IC60901	D1
IC60002	A3	IC60902	E1
IC60003	A2	IC60903	D2
IC60004	B2	IC60904	D3
IC60005	A2	IC60905	D2
IC60006	B2	IC60906	D2
IC60007	A1	IC60907	D1
IC60008	A1	IC60908	E1
IC60009	B1	IC60909	E1
IC60010	A1	IC61001	E3
IC60011	A1	IC61002	E2
IC60013	A1	IC61003	D3
IC60101	B1	IC61101	D1
IC60102	C2	P60601	C4
IC60103	C2	P60801	C1
IC60201	A3	P60804	D1
IC60204	A4	P61101	E1
IC60206	B3	P61102	B1
IC60301	D3	QR60407	A4
IC60302	E3	QR60408	A4
IC60303	D4	QR60409	A4
IC60304	D4	QR60410	A4
IC60306	E4	QR60417	C3
IC60308	E3	QR60418	A4
IC60401	A4	QR60419	A4
IC60402	C3	QR60420	A4
IC60403	B3	QR60421	A4
IC60404	C3	TG60001	A1
IC60501	D3	TP60001	A1
IC60502	B2	TP60002	A1
IC60503	B3	VR60001	A1
IC60504	C3	VR60002	A1
IC60505	C2		



FOIL SIDE			
REF	LOC	REF	LOC
IC60202	A4	QR60412	A4
IC60203	B4	QR60413	A4
IC60405	B4	QR60414	A3
P60802	A1	QR60415	A4
QR60001	A2	QR60416	A3
QR60201	A3	TG60901	D1
QR60401	A4	TP60003	A1
QR60402	A4	TP60901	D1
QR60403	A4	TP60902	D1
QR60404	A4	TP60903	D1
QR60405	A4	TP61101	B1
QR60406	A4	TP61102	B1
QR60411	A4		



(COMPONENT SIDE)

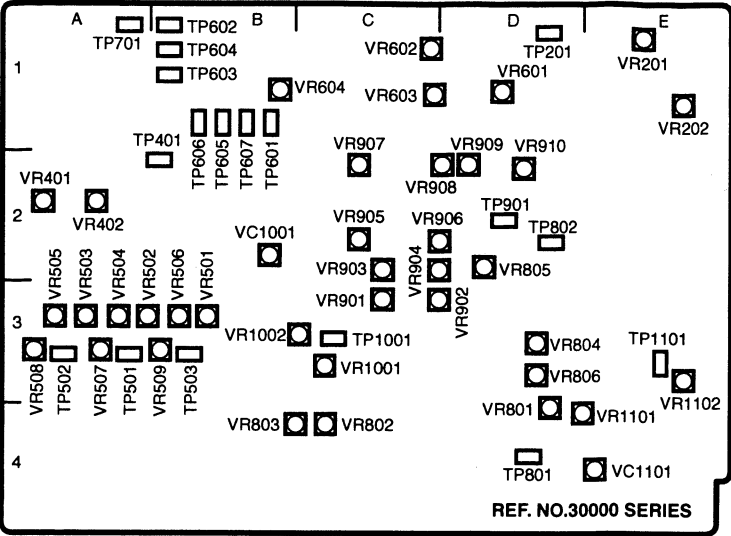


(FOIL SIDE)

VIDEO I/O P.C.BOARD (VEP03F01A)

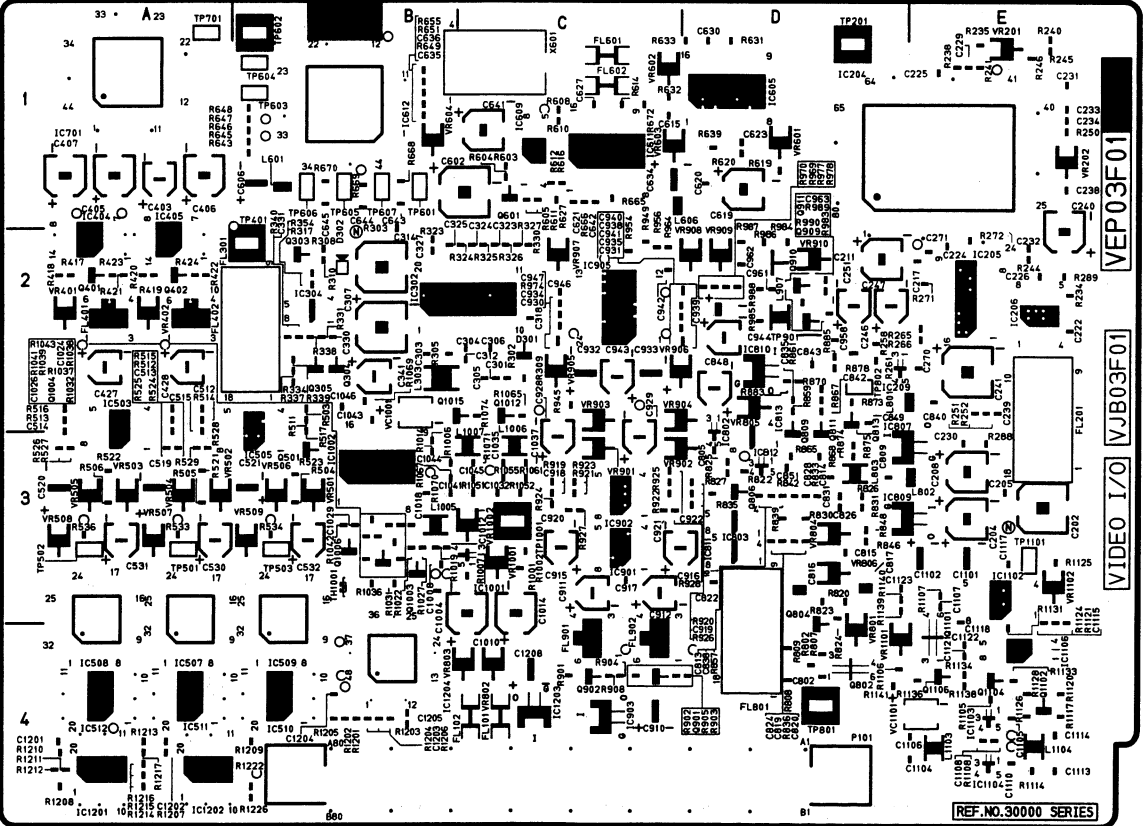
COMPONENT SIDE

REF	LOC	REF	LOC	REF	LOC	REF	LOC
IC30204	E1	IC31103	E4	TP30501	A3	VR30806	D3
IC30205	E2	IC31104	E4	TP30502	A3	VR30901	C3
IC30206	E2	IC31106	E4	TP30503	B3	VR30903	C2
IC30209	D2	IC31201	A4	TP30601	B1	VR30904	C2
IC30302	C2	IC31202	A4	TP30602	B1	VR30906	C2
IC30304	B2	IC31203	C4	TP30603	B1	VR30907	C2
IC30404	A2	IC31204	B4	TP30604	B1	VR30908	D2
IC30405	A2	P30101	C4	TP30605	B1	VR30910	D2
IC30503	A2	Q30303	B2	TP30606	B1	VR31001	C3
IC30505	B2	Q30304	B2	TP30607	B1	VR31002	C3
IC30507	A3	Q30305	B2	TP30701	A1	VR31101	D4
IC30508	A3	Q30401	A2	TP30801	D4	VR31102	E3
IC30509	B3	Q30402	A2	TP30802	D2	VR30806	D3
IC30510	B4	Q30501	B3	TP30901	D2	VR30901	C3
IC30511	A4	Q30601	C1	TP31001	C3	VR30903	C2
IC30512	A4	Q30802	D4	TP31101	E3	VR30904	C2
IC30605	D1	Q30804	D3	VR30401	A2	VR30906	C2
IC30609	C1	Q30806	D3	VR30402	A2	VR30907	C2
IC30611	C1	Q30809	D2	VR30501	B3	VR30908	D2
IC30612	B1	Q30811	D2	VR30502	A3	VR30910	D2
IC30701	A1	Q30813	D2	VR30503	A3	VR31001	C3
IC30802	D2	Q30901	C4	VR30504	A3	VR31002	C3
IC30803	D3	Q30902	C4	VR30505	A3	VR31101	D4
IC30807	D3	Q30909	D2	VR30506	B3	VR31102	E3
IC30809	D3	Q30911	D2	VR30507	A3		
IC30810	D2	Q31003	B3	VR30508	A3		
IC30811	D3	Q31004	B3	VR30509	B3		
IC30812	D3	Q31006	B3	VR30601	D1		
IC30813	D2	Q31012	C2	VR30602	C1		
IC30901	C3	Q31015	B2	VR30603	C1		
IC30902	C3	Q31101	E4	VR30604	B1		
IC30903	C4	Q31102	E4	VR30801	D3		
IC30905	C2	Q31104	E4	VR30802	C4		
IC31001	C3	Q31106	E4	VR30803	C4		
IC31002	B3	TP30201	D1	VR30804	D3		
IC31102	E3	TP30401	B2	VR30805	D2		

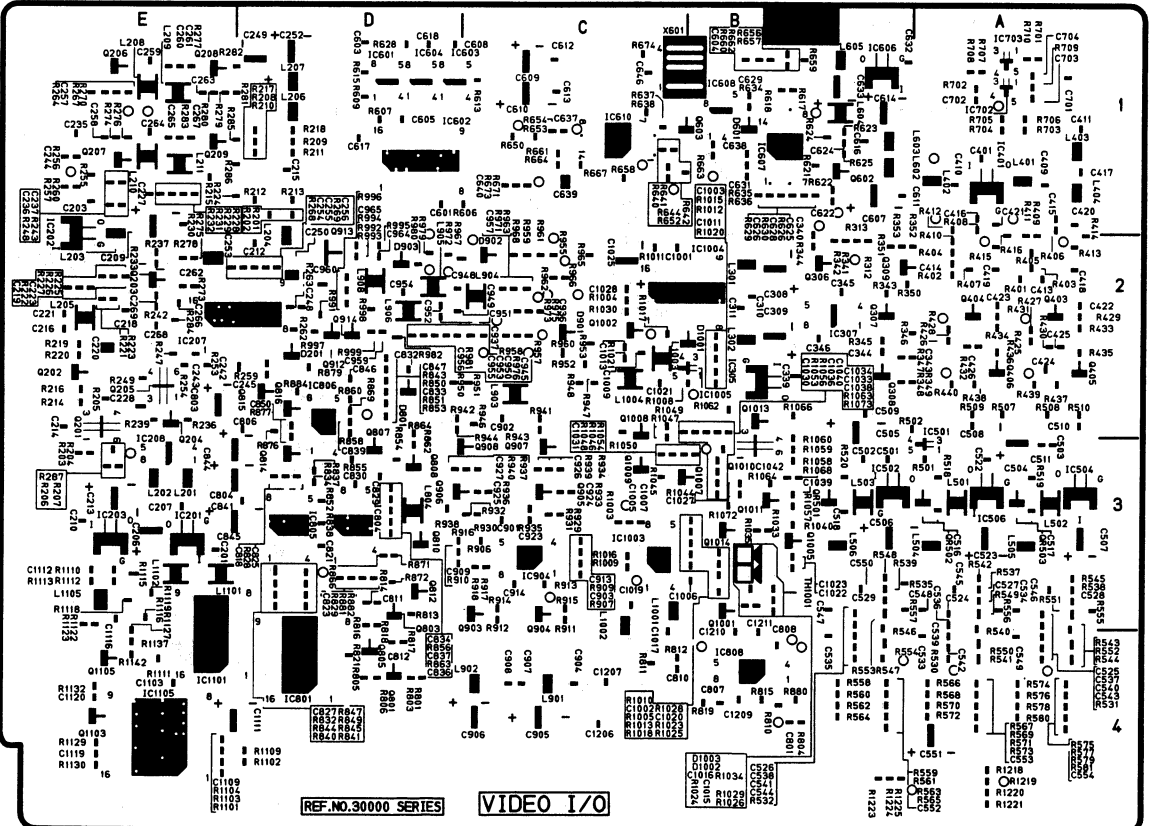


FOIL SIDE

REF	LOC	REF	LOC	REF	LOC
IC30201	E3	Q30209	E1	Q30205	E2
IC30202	E2	Q30306	B2	Q30206	E1
IC30203	E3	Q30307	B2	Q30207	E1
IC30207	D2	Q30308	B2	Q30208	E1
IC30208	E3	Q30309	B2	QR30501	B3
IC30305	B2	Q30403	A2	QR30502	A3
IC30307	B2	Q30404	A2	QR30503	A3
IC30401	A1	Q30405	A2		
IC30501	A3	Q30406	A2		
IC30502	B3	Q30602	B1		
IC30504	A3	Q30801	D4		
IC30506	A3	Q30803	D3		
IC30601	D1	Q30805	D4		
IC30602	D1	Q30807	D3		
IC30604	D1	Q30808	D3		
IC30606	B1	Q30810	D3		
IC30607	B1	Q30812	D3		
IC30608	B1	Q30814	D3		
IC30610	C1	Q30815	D2		
IC30702	A1	Q30816	D2		
IC30703	A1	Q30903	C3		
IC30801	D4	Q30904	C3		
IC30804	D3	Q30905	C3		
IC30805	D3	Q30906	D3		
IC30806	D2	Q30907	C3		
IC30808	B4	Q30908	D3		
IC30904	C3	Q30912	D2		
IC31003	C3	Q30914	D2		
IC31004	C2	Q31001	B3		
IC31005	B2	Q31002	C2		
IC31101	E3	Q31005	B3		
IC31105	E4	Q31007	C3		
Q30201	E2	Q31008	C2		
Q30202	E2	Q31009	C3		
Q30203	E2	Q31103	E4		
Q30204	E2	Q31105	E4		



(COMPONENT SIDE)

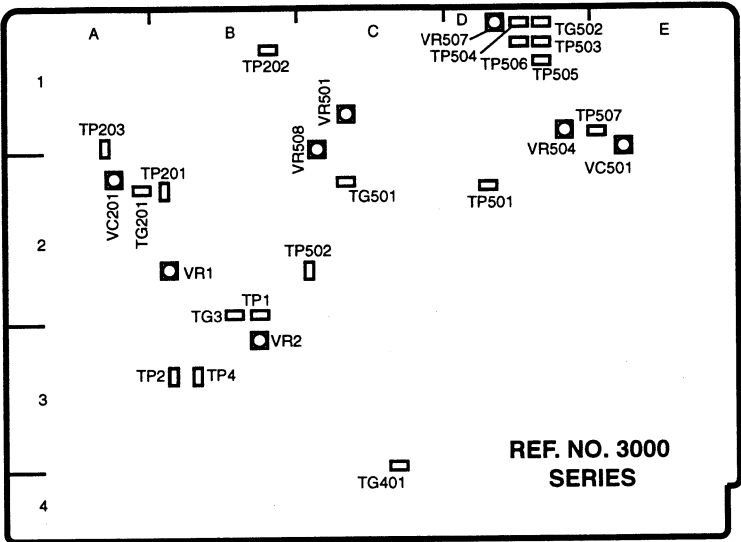


(FOIL SIDE)

TBC P.C.BOARD (VEP03E32B)

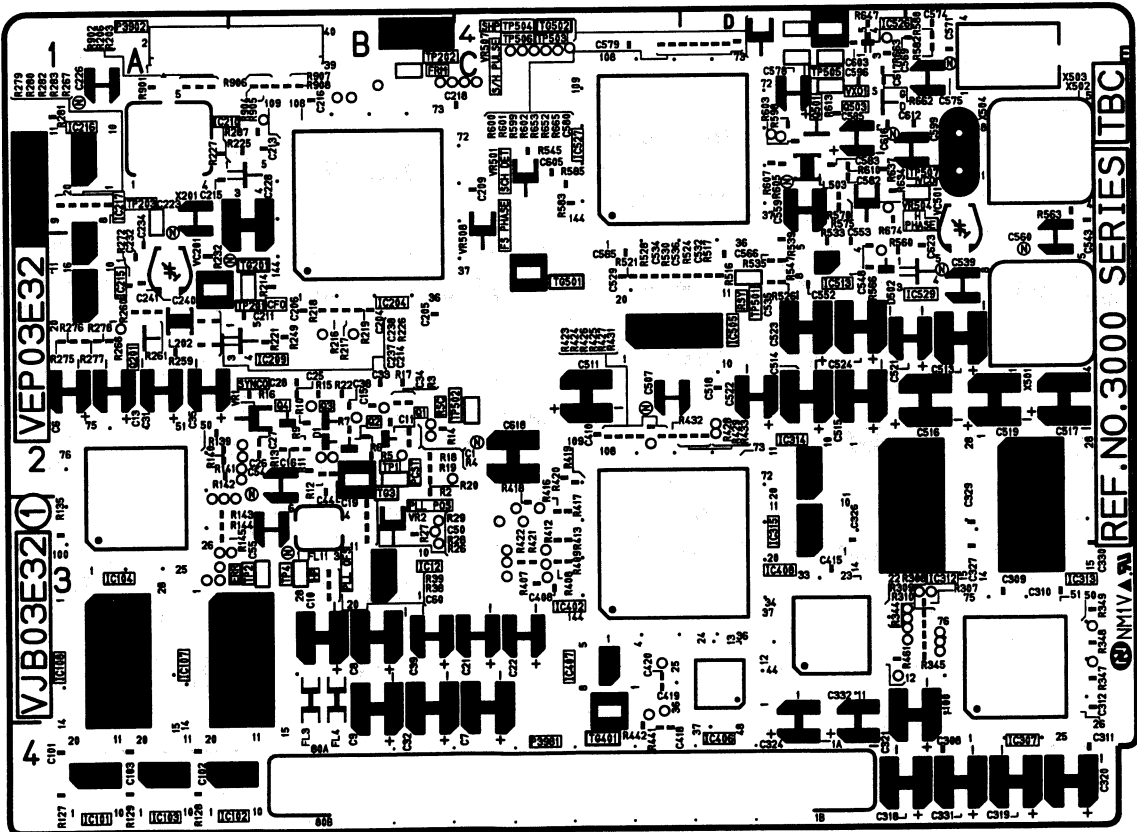
COMPONENT SIDE

REF	LOC	REF	LOC
IC3012	B3	Q3002	B2
IC3101	A4	Q3003	B2
IC3102	A4	Q3004	B2
IC3103	A4	Q3201	A2
IC3104	A3	Q3501	D1
IC3107	B3	Q3503	D1
IC3108	A3	TG3003	B2
IC3204	B1	TG3201	A2
IC3209	B2	TG3401	C3
IC3210	B1	TG3501	C2
IC3215	A2	TG3502	D1
IC3216	A1	TP3001	B2
IC3217	A2	TP3002	B3
IC3307	E3	TP3004	B3
IC3312	E3	TP3201	B2
IC3313	E3	TP3202	B1
IC3314	D2	TP3203	A1
IC3315	D3	TP3501	D2
IC3402	C3	TP3502	C2
IC3406	D3	TP3503	D1
IC3407	C3	TP3504	D1
IC3505	C2	TP3505	D1
IC3513	D2	TP3506	D1
IC3526	D1	TP3507	E1
IC3527	C1	VR3001	B2
IC3529	E2	VR3501	C1
P3902	B1	VR3504	D1
P3981	C4	VR3507	D1
Q3001	B2	VR3508	C2

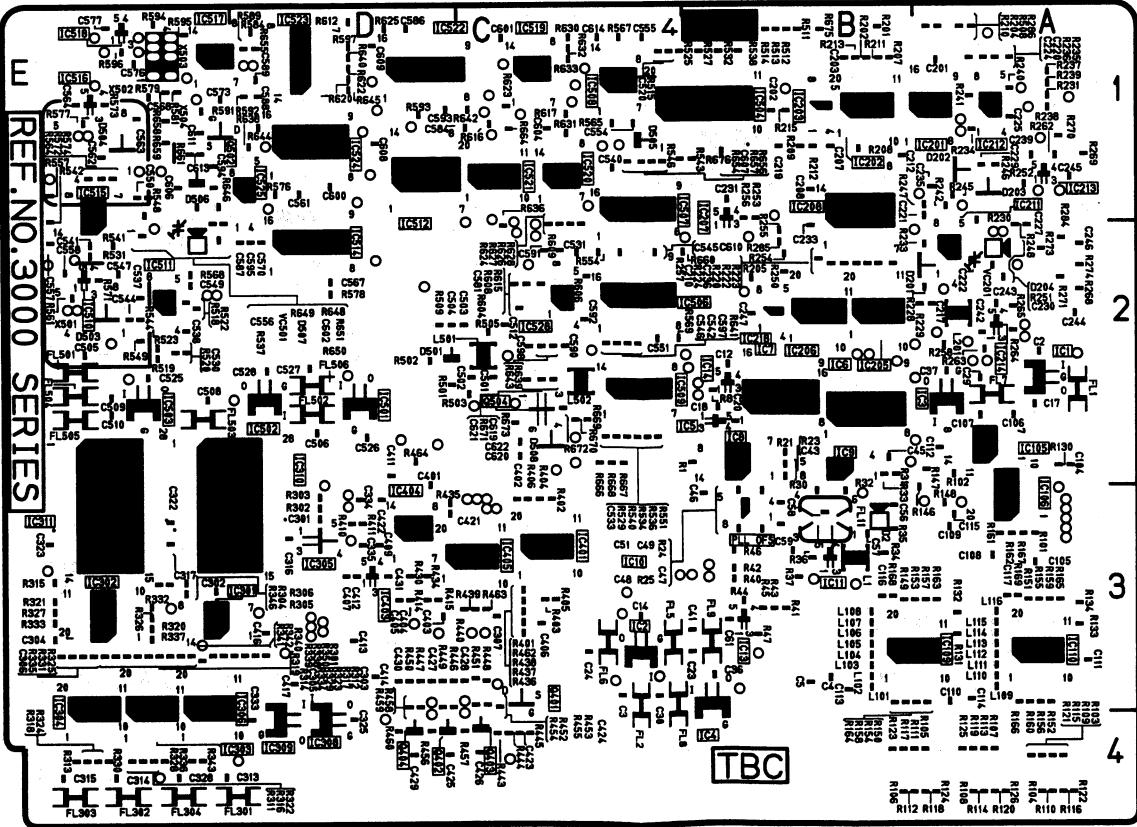


FOIL SIDE

REF	LOC	REF	LOC
IC3001	A2	IC3310	E3
IC3002	C3	IC3311	E3
IC3003	A2	IC3401	C3
IC3004	B3	IC3403	D3
IC3005	B2	IC3404	D3
IC3006	B2	IC3405	C3
IC3007	B2	IC3501	D2
IC3008	B2	IC3502	D2
IC3009	B2	IC3503	E2
IC3010	B3	IC3504	B1
IC3011	B3	IC3506	C2
IC3013	B3	IC3507	C1
IC3014	B2	IC3508	C1
IC3105	A2	IC3509	C2
IC3106	A3	IC3510	E2
IC3109	B3	IC3511	E2
IC3110	A3	IC3512	D1
IC3201	A1	IC3514	D2
IC3202	B1	IC3515	E1
IC3203	B1	IC3516	E1
IC3205	B2	IC3517	E1
IC3206	B2	IC3518	E1
IC3207	B1	IC3519	C1
IC3208	B1	IC3520	C1
IC3211	A2	IC3521	C1
IC3212	A1	IC3522	D1
IC3213	A1	IC3523	D1
IC3214	A2	IC3524	D1
IC3301	E3	IC3525	D1
IC3302	E3	IC3528	C2
IC3303	E3	Q3401	C3
IC3304	E3	Q3402	D4
IC3305	D3	Q3403	C4
IC3306	E3	Q3404	D4
IC3308	D4	Q3502	E1
IC3309	D4	Q3504	C2



(COMPONENT SIDE)

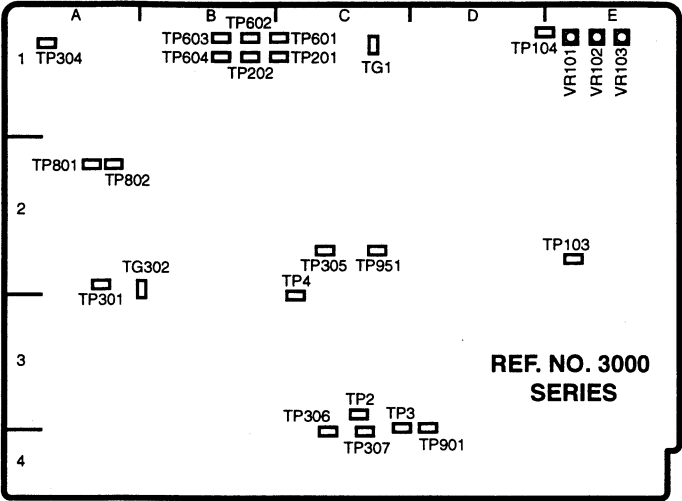


(FOIL SIDE)

DIGITAL CORE P.C.BOARD (VEP03F00A)

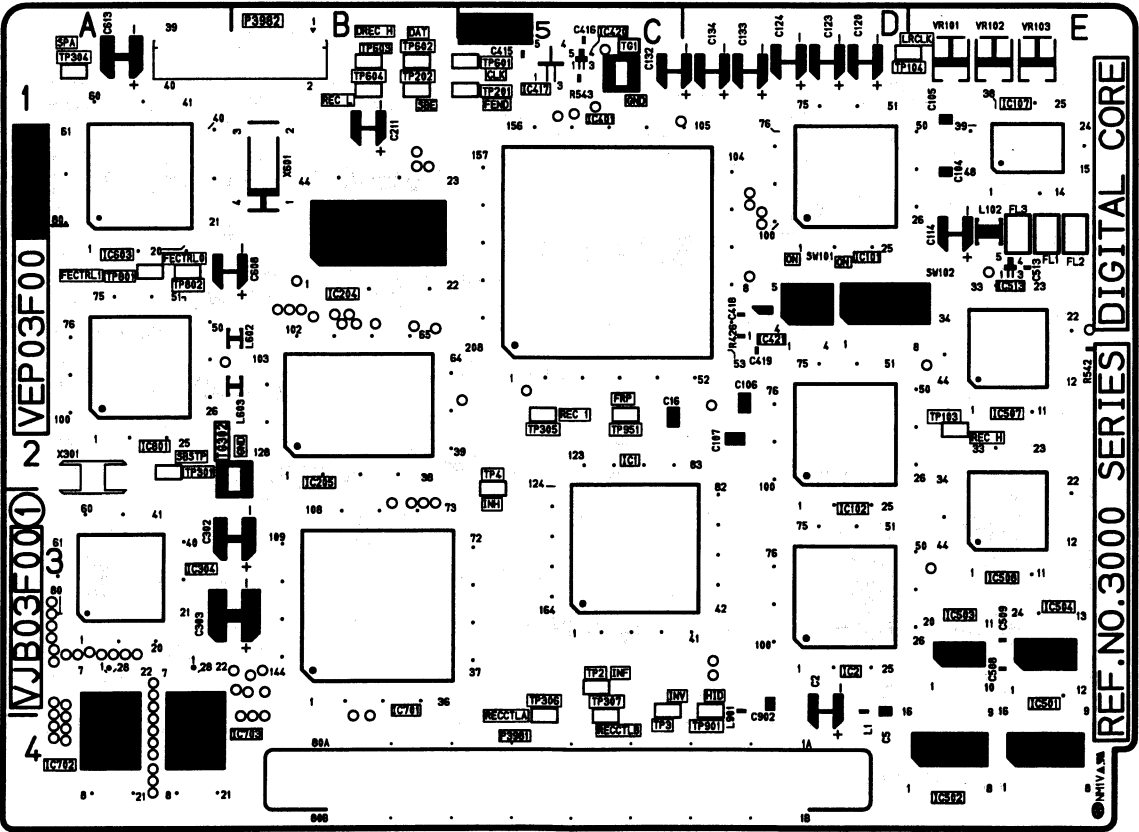
COMPONENT SIDE

REF	LOC	REF	LOC
IC3001	C3	TG3302	B2
IC3002	D3	TP3002	C3
IC3101	D1	TP3003	C3
IC3102	D2	TP3004	C3
IC3107	E1	TP3103	E2
IC3204	B2	TP3104	E1
IC3205	B2	TP3201	C1
IC3304	A3	TP3202	B1
IC3401	C2	TP3301	A2
IC3417	C1	TP3304	A1
IC3420	C1	TP3305	C2
IC3421	D2	TP3306	C4
IC3501	E4	TP3307	C4
IC3502	E4	TP3601	C1
IC3503	E3	TP3602	B1
IC3504	E3	TP3603	B1
IC3507	E2	TP3604	B1
IC3508	E3	TP3801	A2
IC3513	E2	TP3802	A2
IC3603	A1	TP3901	D3
IC3801	A2	TP3951	C2
P3981	C4	VR3101	E1
P3982	B1	VR3102	E1
TG3001	C1	VR3103	E1

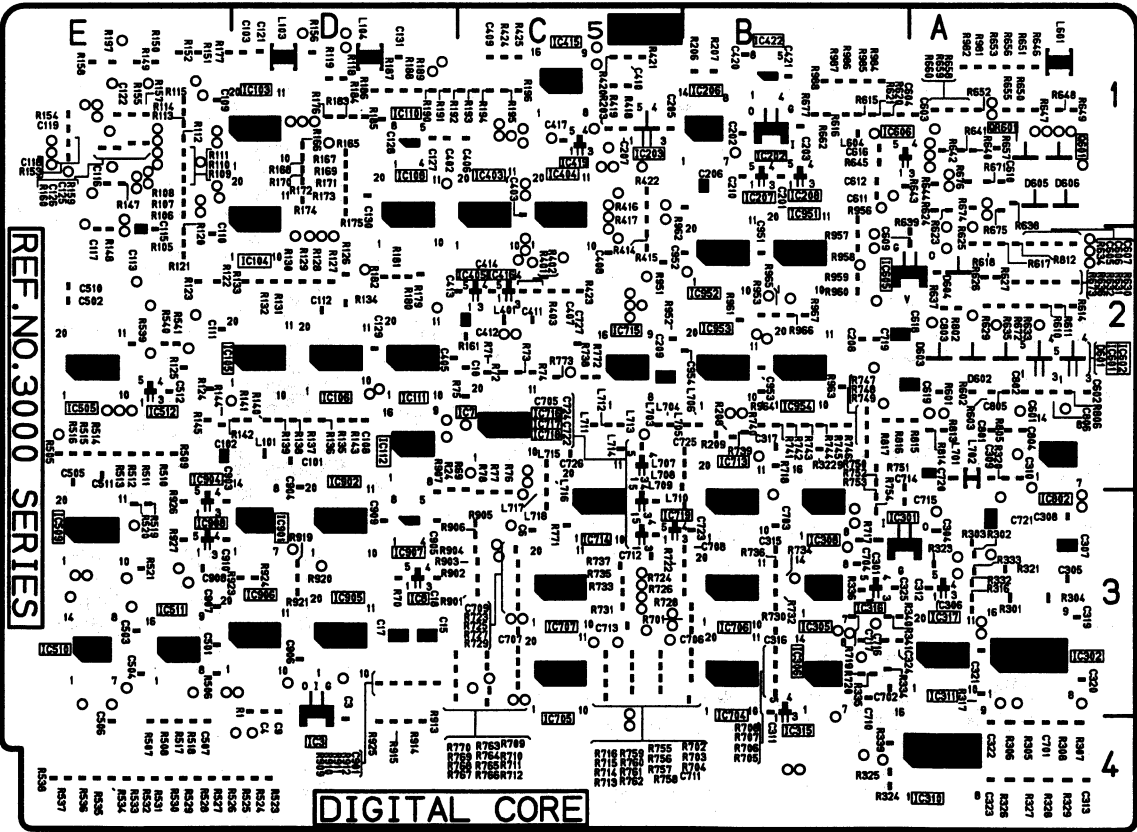


FOIL SIDE

REF	LOC	REF	LOC
IC3003	D3	IC3419	C1
IC3007	C2	IC3422	B1
IC3008	D3	IC3505	E2
IC3103	D1	IC3509	E3
IC3104	D1	IC3510	E3
IC3105	D2	IC3511	E3
IC3106	D2	IC3512	E2
IC3108	D1	IC3601	A2
IC3110	D1	IC3602	A2
IC3111	D2	IC3605	A2
IC3112	D2	IC3606	B1
IC3202	B1	IC3704	B3
IC3203	C1	IC3705	C3
IC3206	B1	IC3713	B3
IC3207	B1	IC3714	C3
IC3208	B1	IC3718	C3
IC3301	B3	IC3719	C3
IC3302	A3	IC3902	A2
IC3305	B3	IC3901	D3
IC3306	B3	IC3902	D3
IC3308	B3	IC3905	D3
IC3310	A4	IC3906	D3
IC3311	A3	IC3907	D3
IC3315	B3	IC3908	E3
IC3316	B3	IC3951	B2
IC3317	A3	IC3952	B2
IC3403	C1	IC3953	B2
IC3404	C1	IC3954	B2
IC3405	C2	Q3601	A1
IC3415	C1	QR3601	A1
IC3416	C2		



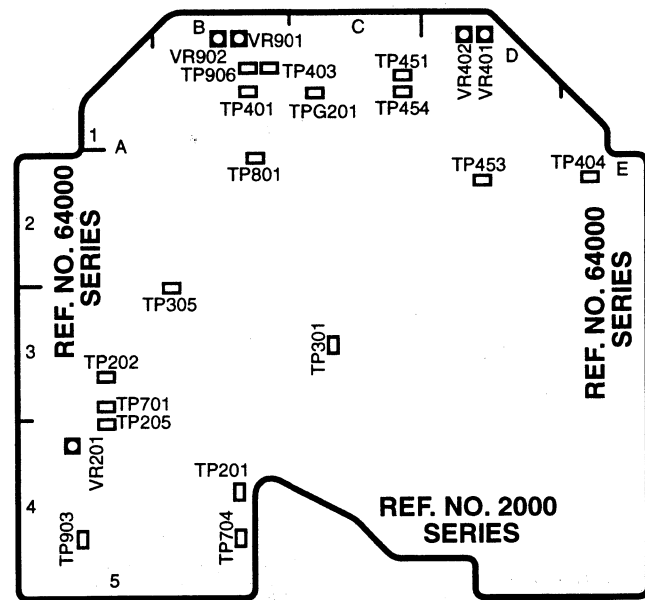
(COMPONENT SIDE)



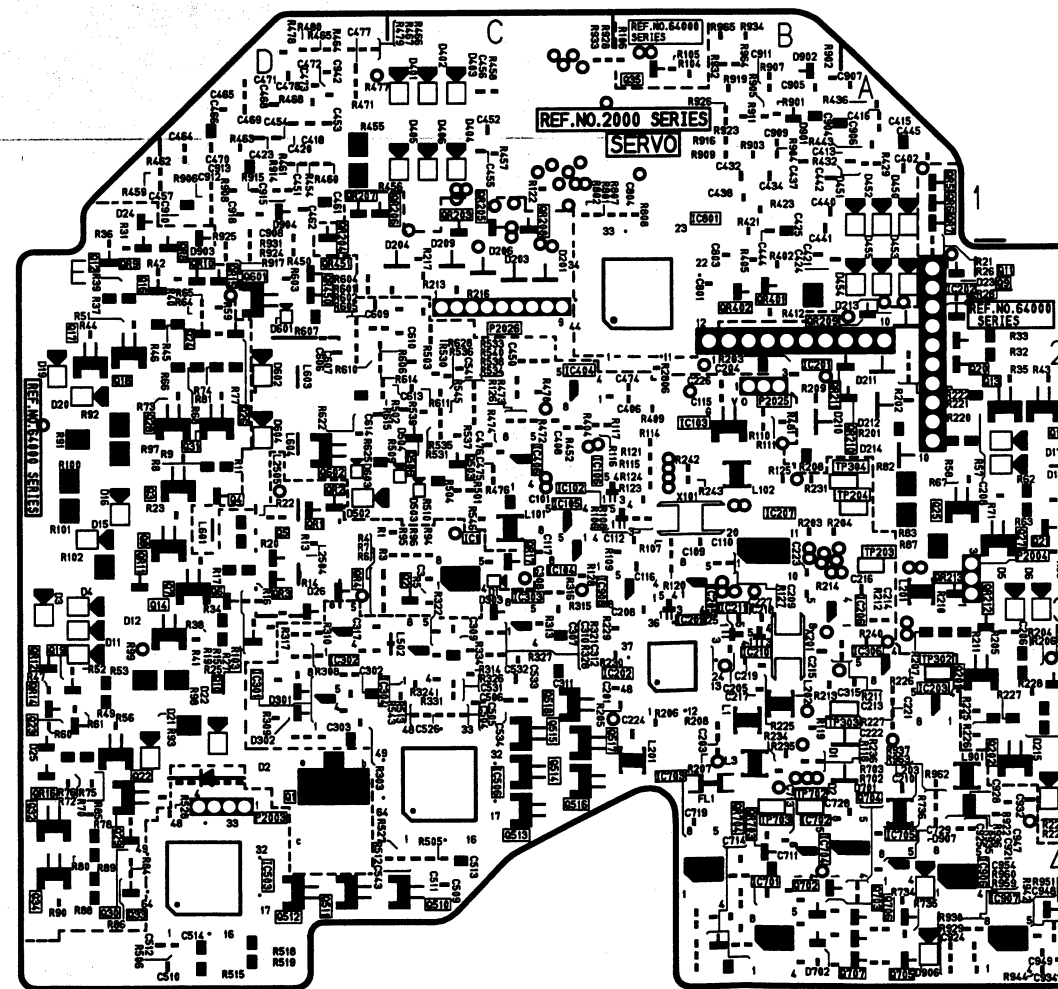
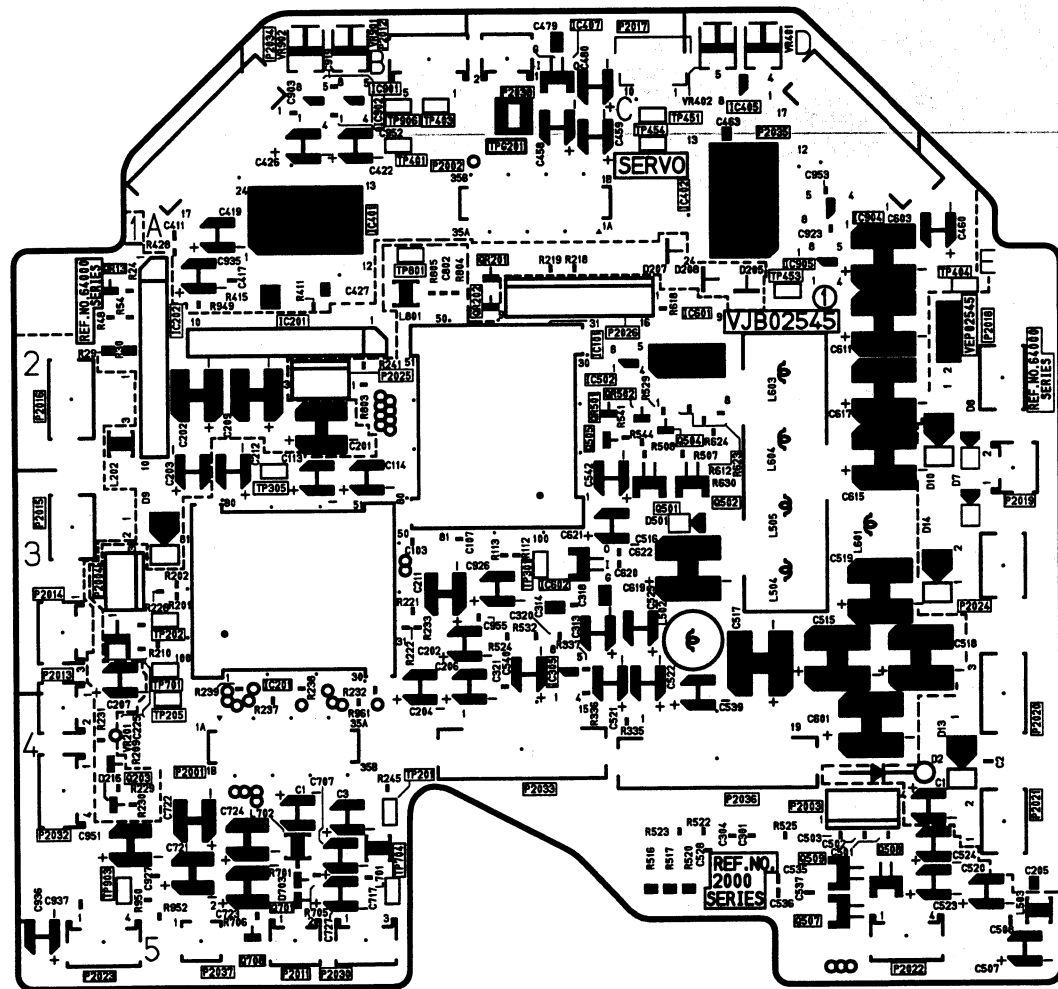
(FOIL SIDE)

SERVO P.C.BOARD (VEP02545J)

COMPONENT SIDE					
REF	LOC	REF	LOC	REF	LOC
IC2101	C2	P2025	B2	TP2453	D2
IC2201	B3	P2026	C2	TP2454	C1
IC2305	C3	P2030	B5	TP2701	A3
IC2401	B1	P2032	A4	TP2702	A3
IC2405	D1	P2033	C4	TP2704	B4
IC2407	C1	P2034	B1	TP2801	B2
IC2502	C2	P2035	D1	TP2903	A4
IC2601	D2	P2036	D4	TP2906	B1
IC2602	C3	P2037	A5	TPG2201	C1
IC2901	B1	P2038	C1	VR2901	B1
IC2902	B1	Q2501	C3	VR2902	B1
IC2904	D1	Q2502	D3		
IC2905	D2	Q2504	C2		
IC64201	B2	Q2505	C2		
IC64202	A2	Q2507	D4		
P2001	A4	Q2508	D4		
P2002	B1	Q2509	D4		
P2003	D4	Q2701	B4		
P2004	A3	Q2708	B5		
P2011	B5	Q64203	A4		
P2012	B1	QR2501	C2		
P2013	A3	QR2502	C2		
P2014	A3	QR64013	A2		
P2015	A3	QR64201	C2		
P2016	A2	QR64202	C2		
P2017	C1	TP2201	B4		
P2018	E2	TP2205	A4		
P2019	E3	TP2301	C3		
P2020	E4	TP2305	B3		
P2021	E4	TP2401	B1		
P2022	D5	TP2403	B1		
P2023	A5	TP2404	E2		
P2024	E3	TP2451	C1		



FOIL SIDE							
REF	LOC	REF	LOC	REF	LOC	REF	LOC
IC2102	C3	P2025	B2	Q64014	E3	QR64003	D3
IC2103	B2	P2026	C2	Q64015	A2	QR64004	D3
IC2104	C3	Q2506	C3	Q64016	E2	QR64005	A1
IC2105	C3	Q2510	C4	Q64017	E2	QR64006	A1
IC2106	C3	Q2511	D4	Q64018	E2	QR64007	A1
IC2202	B3	Q2512	D4	Q64019	E3	QR64008	D2
IC2203	A3	Q2513	C4	Q64020	A2	QR64009	E2
IC2205	B3	Q2514	C4	Q64021	A3	QR64010	D2
IC2206	A3	Q2515	C4	Q64022	E4	QR64011	E3
IC2207	B3	Q2516	C4	Q64023	E4	QR64012	E3
IC2209	B3	Q2517	C4	Q64024	D2	QR64014	E3
IC2210	B3	Q2518	C4	Q64025	D2	QR64016	E4
IC2211	B3	Q2601	D2	Q64027	A3	QR64203	C1
IC2301	D3	Q2602	D3	Q64028	D2	QR64205	C1
IC2302	D3	Q2702	B4	Q64029	E4	QR64208	C1
IC2303	C3	Q2703	A4	Q64030	E4	QR64209	A2
IC2304	C3	Q2704	A4	Q64031	D2	QR64210	A2
IC2306	A3	Q2705	A5	Q64032	E4	QR64211	B2
IC2404	C2	Q2706	A4	Q64033	E4	QR64212	A3
IC2406	C3	Q2707	A5	Q64034	E4	QR64213	A3
IC2503	D4	Q2901	A4	Q64035	B1	QR64214	A3
IC2701	B4	Q64001	D4	Q64202	A4	TP2203	A3
IC2702	B4	Q64002	C3	QR2015	D2	TP2204	A3
IC2703	B4	Q64003	E3	QR2207	D1	TP2302	A3
IC2704	B4	Q64004	D3	QR2264	D1	TP2303	A4
IC2705	A4	Q64005	D3	QR2401	B2	TP2304	A3
IC2801	B1	Q64006	D3	QR2402	B2	TP2702	B4
IC2907	A4	Q64008	E3	QR2450	D2	TP2703	B4
IC2908	C3	Q64009	A2	QR2451	D2		
IC64201	B2	Q64010	D3	QR2703	B4		
IC64202	A2	Q64011	A2	QR2704	B4		
P2003	D4	Q64012	E2	QR64001	D3		
P2004	A3	Q64013	A2	QR64002	D3		





(COMPONENT SIDE)


(FOIL SIDE)

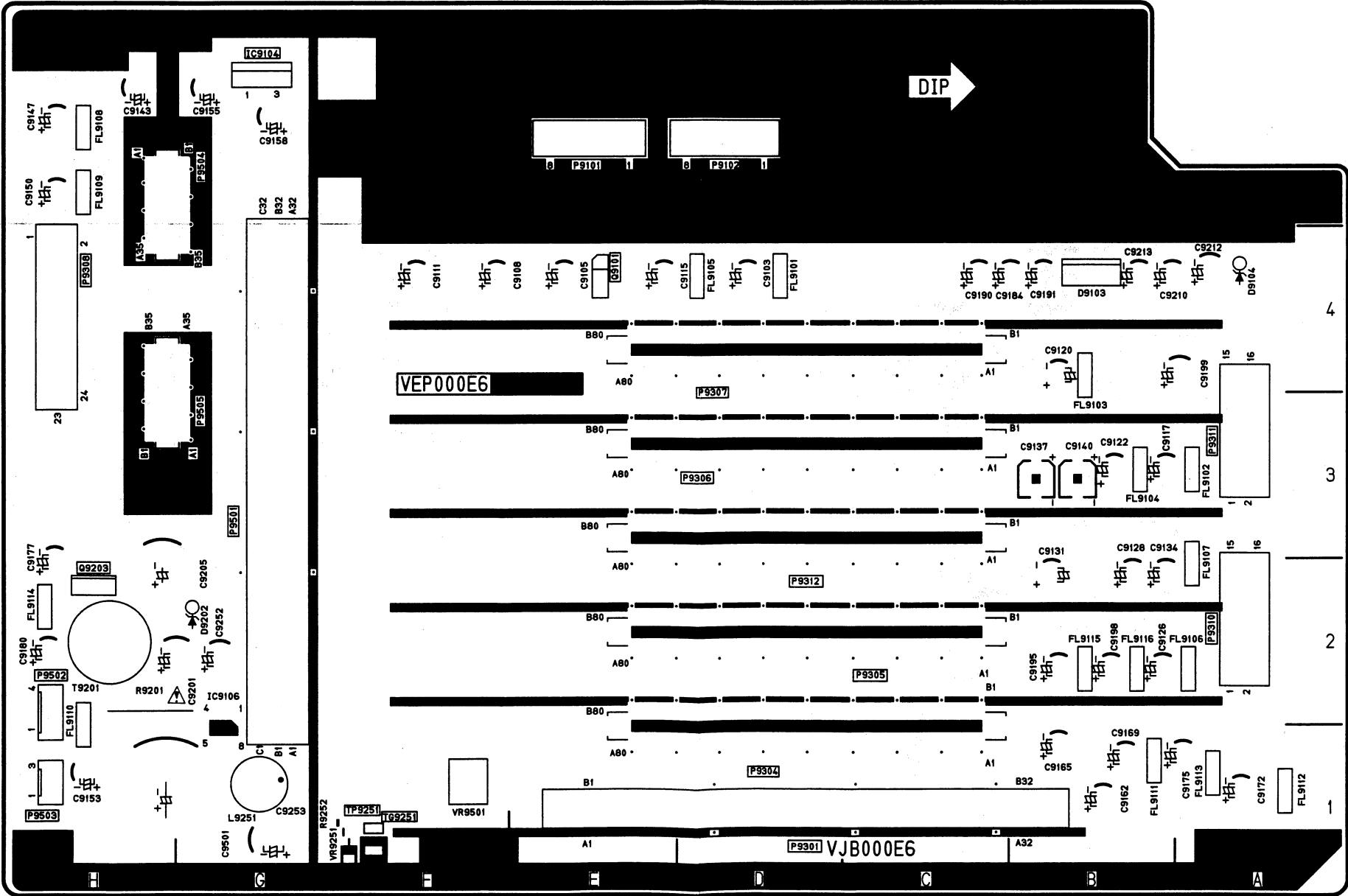
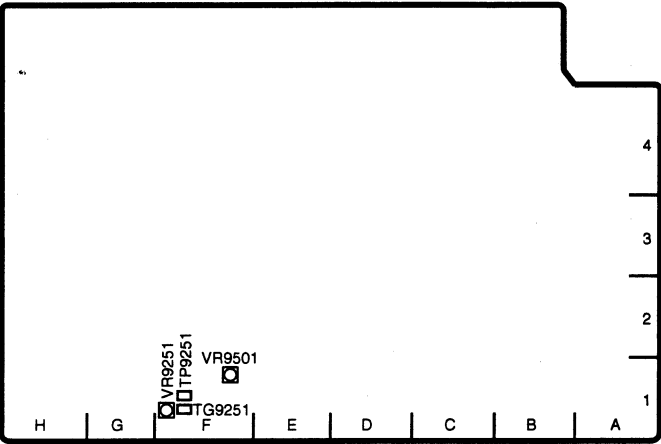
MOTHER P.C.BOARD (VEP000E6A)

COMPONENT SIDE

REF	LOC	REF	LOC
IC9104	G5	P9312	D3
IC9106	G2	P9501	G3
P9101	E5	P9502	H2
P9102	D5	P9503	H1
P9301	D1	P9504	H5
P9304	D2	P9505	H4
P9305	D2	Q9101	E4
P9306	D3	Q9203	H2
P9307	D4	TG9251	F1
P9308	H4	TP9251	F1
P9310	A2	VR9251	F1
P9311	A3	VR9501	F1

 警告  印の部品は、安全上重要な部品です。交換するときは、安全及び性能維持のため必ず指定の部品をご使用ください。

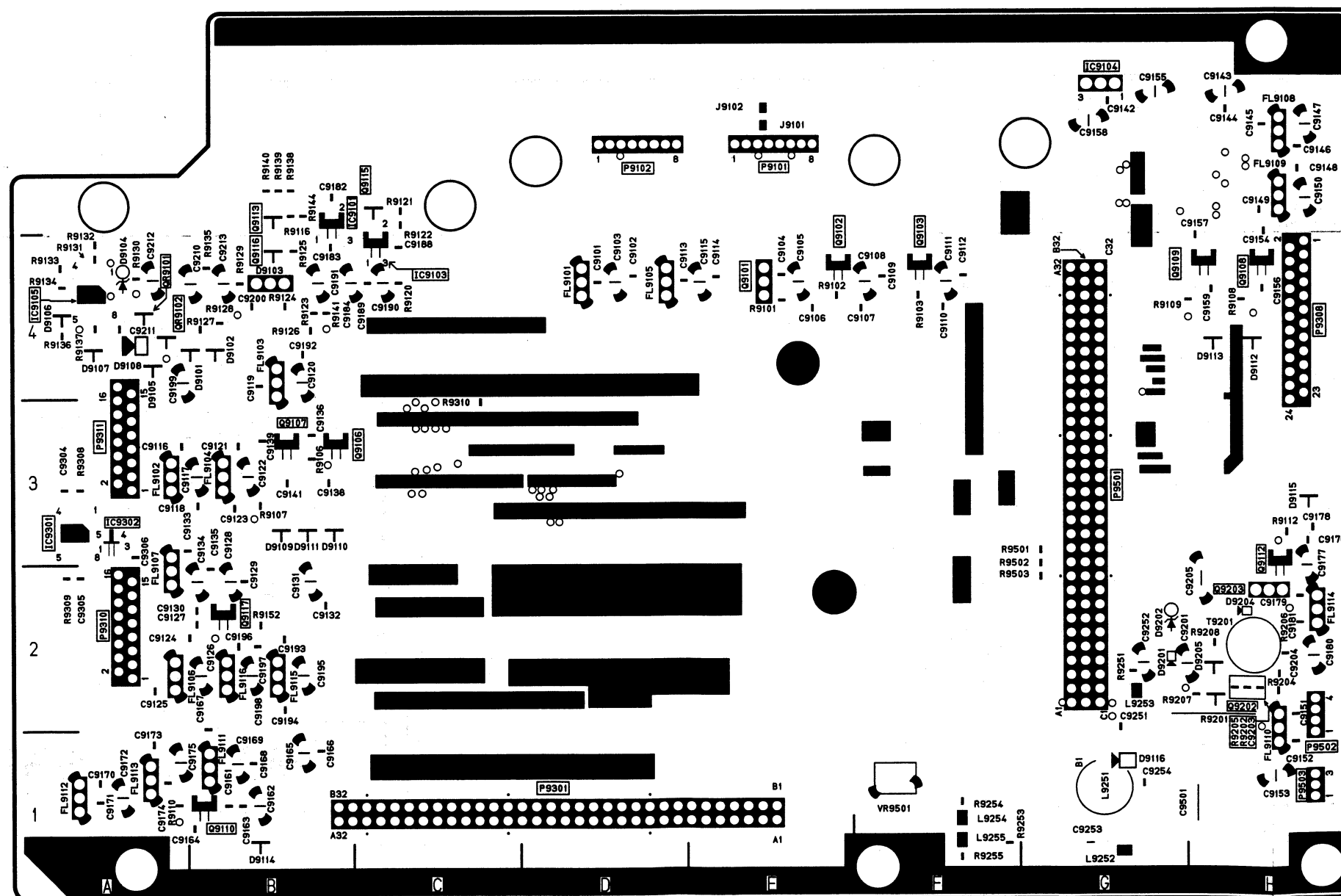
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK  HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.



(COMPONENT SIDE)

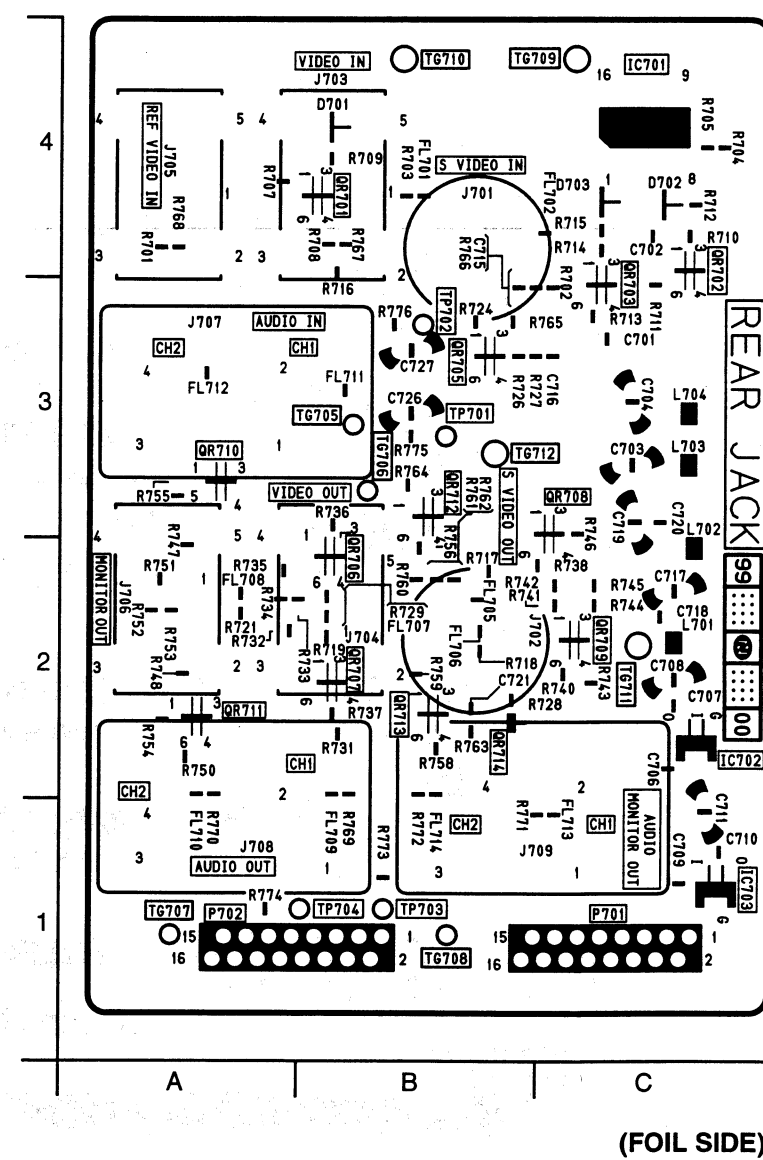
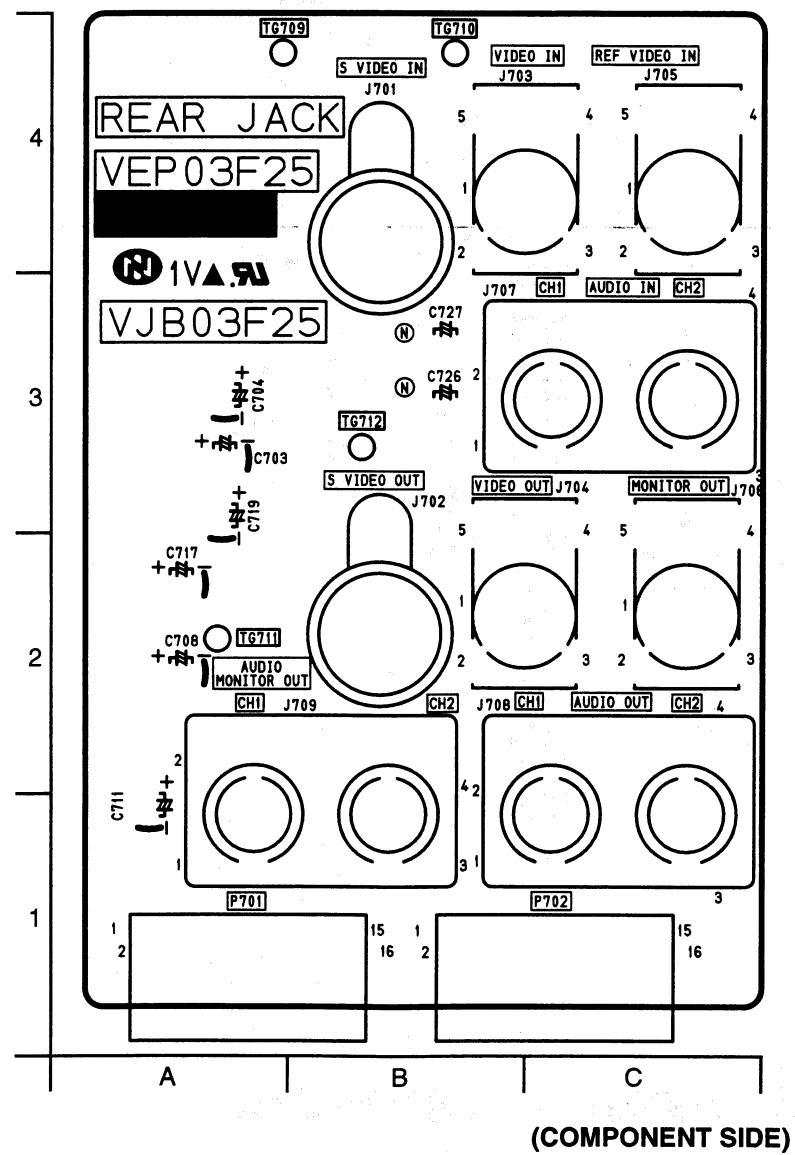
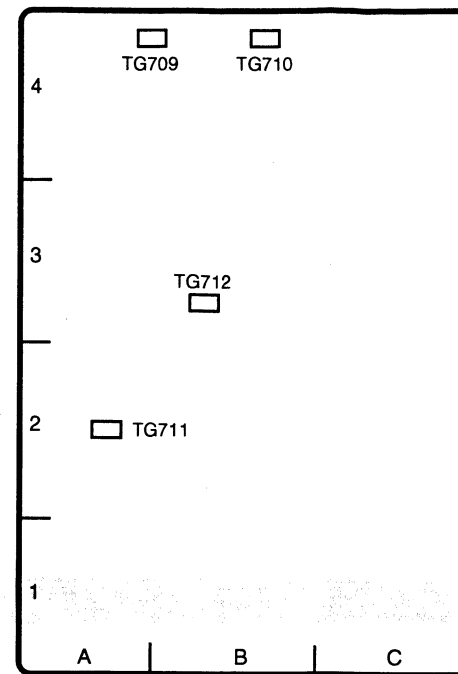
FOIL SIDE

REF	LOC	REF	LOC
IC9101	B5	Q9109	H4
IC9103	C4	Q9110	B1
IC9105	A4	Q9112	H3
IC9301	A3	Q9113	B5
IC9302	A3	Q9115	C5
Q9102	E4	Q9116	B4
Q9103	F4	Q9117	B2
Q9106	B3	Q9202	H2
Q9107	B3	QR9101	A4
Q9108	H4	QR9102	A4



(FOIL SIDE)

REAR JACK P.C.BOARD (VEP03F25A)



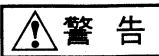
POWER 1 P.C.BOARD (VEP01791A)

POWER 2 P.C.BOARD (VEP01792A)

内は充電部です。AC100Vが加わっておりますので点検、修理のときは感電しないよう十分ご注意ください。

CAUTION

THE MARK INDICATES THE PRIMARY CIRCUIT TO DISTINGUISH THE PRIMARY FROM THE SECONDARY CIRCUIT.
PAY ATTENTION NOT RECEIVE AN ELECTRIC SHOCK DURING REPAIR AND SERVICE OF THE PRODUCTS.



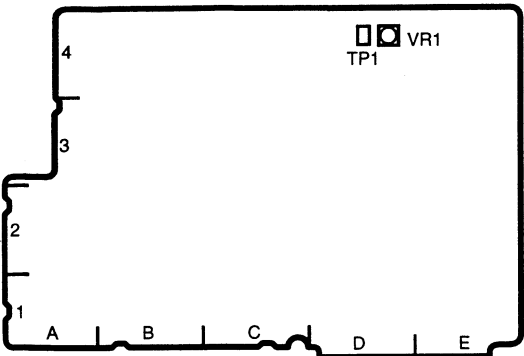
警告



の部品は、安全上重要な部品です。交換するときは、安全及び性能維持のため、必ず指定の部品をご使用ください。

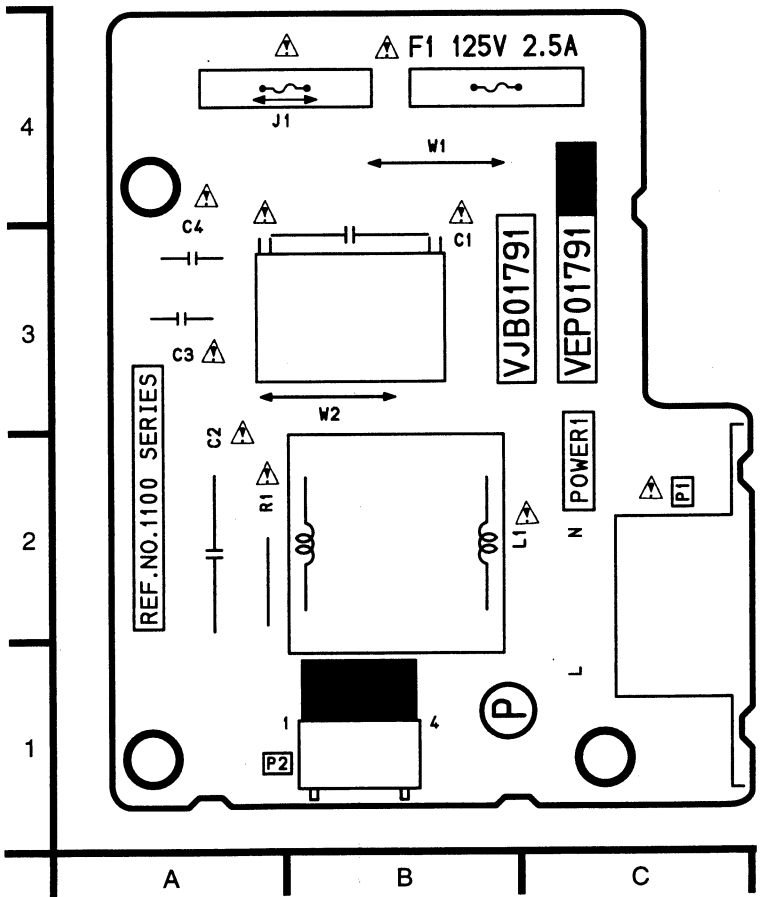
IMPORTANT SAFETY NOTICE

COMPONENTS IDENTIFIED WITH THE MARK HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY THE SAME TYPE.



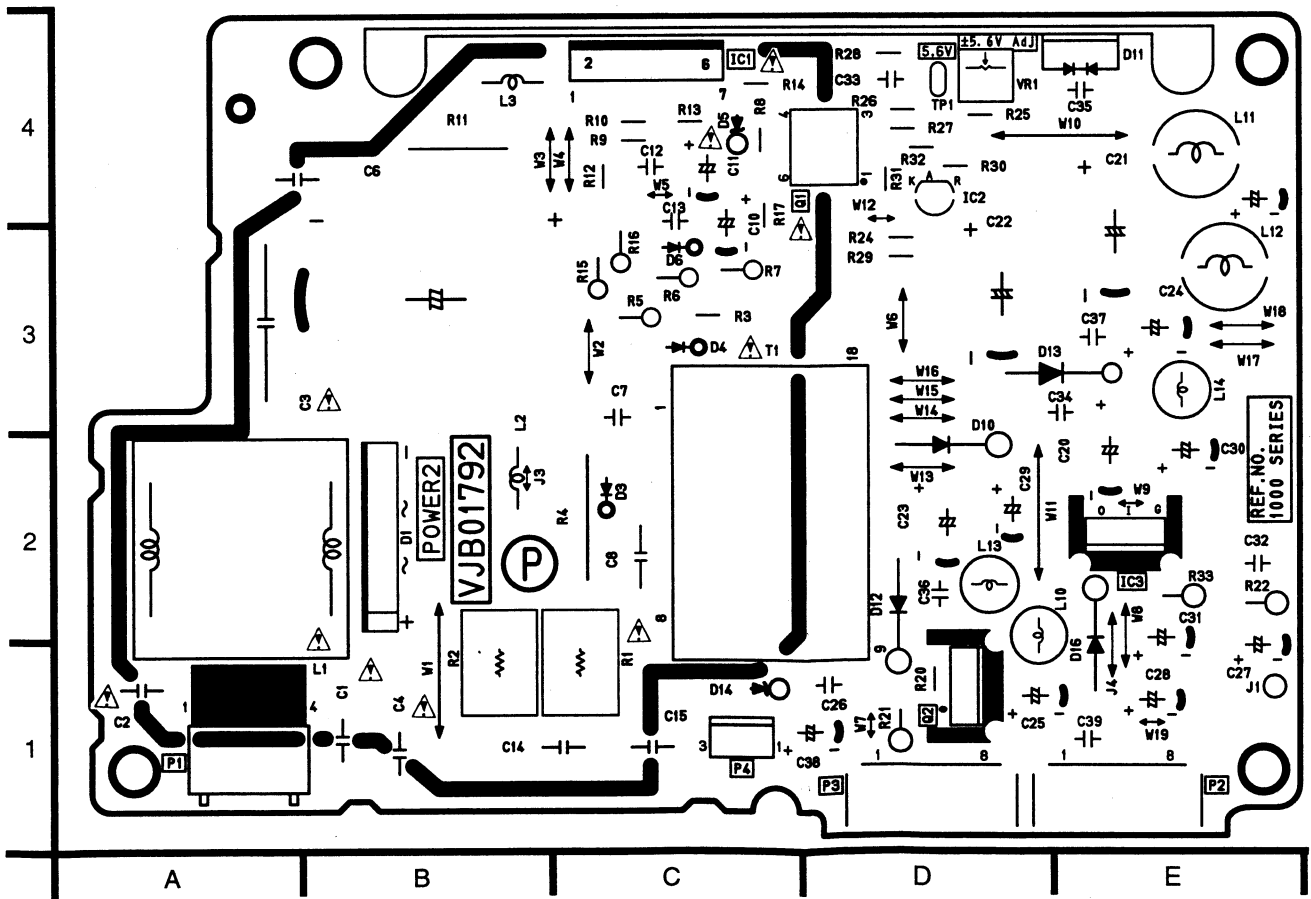
COMPONENT SIDE

REF	LOC
IC1	C4
IC2	D4
IC3	E2
P1	A1
P2	E1
P3	D1
P4	C1
Q1	D4
Q2	D1
TP1	D4
VR1	D4



(CPMPONENT SIDE)

CBA-15



(COMPONENT SIDE)

CBA-15

SECTION 8

EXPLODED VIEWS & PARTS LIST

Note:

1. *Be sure to make your orders of replacement parts according to this list.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000
OHMS, all capacitors are in MICROFARADS (μ F), P= μ μ F.
3. The P.C. Board units marked with "■" shown below the main assembled parts.
4. The parts marked with E on the exploded view show the electric parts.
5. **IMPORTANT SAFETY NOTICE**
Components identified with the mark <!> have the special characteristics for safety. When replacing any of these components, use only the same type.
6. The marking (RTL) indicates the retention time is limited for this item.
After the discontinuation of this assembly in production, it will no longer be available

<<Abbreviations for part>>

<NAME>	<DESCRIPTIONS>
C. CAPACITOR	: CERAMIC CAPACITOR
C. CAPACITOR	CH : CERAMIC CHIP CAPACITOR
E. CAPACITOR	: ELECTROLYTIC CAPACITOR
G. CAPACITOR	: GLASS CAPACITOR
M. CAPACITOR	: MICA CAPACITOR
P. CAPACITOR	: PLASTIC FILM CAPACITOR
S. CAPACITOR	: SEMI-CONDUCTOR CAPACITOR
T. CAPACITOR	: TANTALUM CAPACITOR
TRIMMER	: TRIMMER
C. RESISTOR	: CARBON RESISTOR
F. RESISTOR	: FUSE RESISTOR
M. RESISTOR	: METAL OXIDE RESISTOR
M. RESISTOR	CH : METAL OXIDE CHIP RESISTOR
S. RESISTOR	: SOLID RESISTOR
V. RESISTOR	: VARIABLE RESISTOR
W. RESISTOR	: WIRE WOUND RESISTOR
COMBI. TR-R	: TRANSISTOR-RESISTOR COMBINATION PARTS
COMBI. R-R	: RESISTOR-RESISTOR COMBINATION PARTS
COMBI. C-R	: CAPACITOR-RESISTOR COMBINATION PARTS
COMBI. C-R-R	: CAPACITOR-RESISTOR-COIL COMBINATION PARTS
P.C. BOARD	: PRINTED CIRCUIT BOARD
W/COMPONENT	: WITH COMPONENT

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Mechanical Chassis Assembly (2)	PRT-5
Sub Chassis Assembly	PRT-7
Chassis Frame Assembly	PRT-9
Cassette Compartment Assembly	PRT-11
Packing Parts Assembly	PRT-13
Electrical Replacement Parts List	PRT-14

SERVICING FIXTURES & TOOLS

AJ-D250P

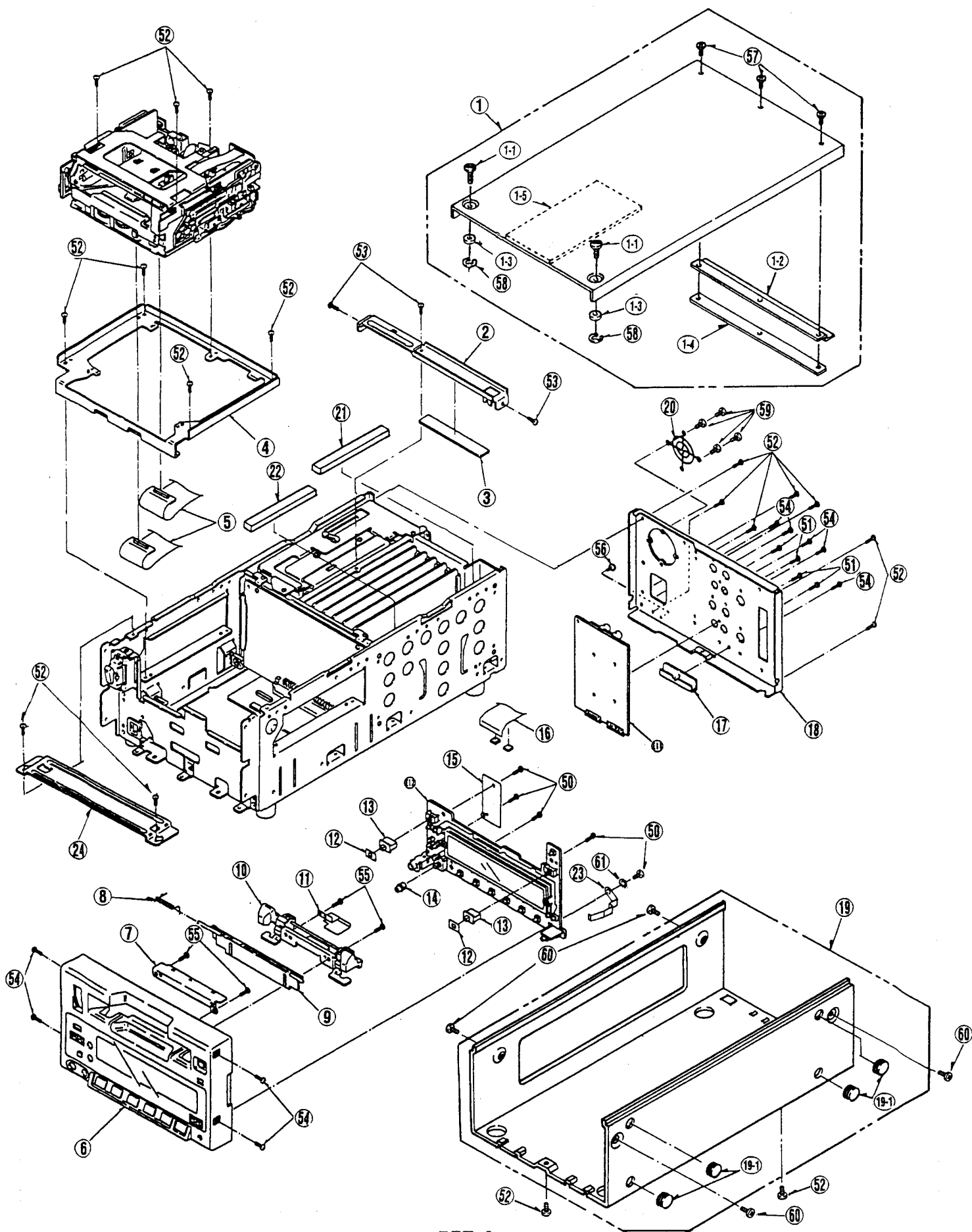
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VFK1145	BACK TENSION METER(T2-M30	1						
2	VFK1149	POST DRIVER	1						
3	VFK71	DIAL TORQUE GAUGE(150G)	1						
4	VFK1191	DIAL TORQUE GAUGE(45G)	1						
5	VFK1152	DIAL TORQUE GAUGE ADAPTOR	1						
6	VFK0357	ECCENTRIC SCREWDRIVER(1.5	1						
7	VFK1154	POST HEIGHT FIXTURE	1						
8	VFK1153	MECH. NEUTRAL PLATE(POST)	1						
9	VFK1157	MECH. NEUTRAL PLATE(CASSE	1						
10	VFK1155	NEUTRAL POSITION TOOL(GOL	1						
11	VFK1156	NEUTRAL POSITION TOOL(BLA	1						
12	VFK1208	NEUTRAL POSITION TOOL(BLA	1						
13	VFK1150	NUT DRIVER(5.5MM)	1						
14	VFK1151	NUT DRIVER(2.5MM)	1						
15	VFK1188	DIAL TENSION GAUGE(30G)	1						
16	VFK0948A	CHECK LIGHT	1						
17	VFK0749	FROTRAL GREASE(FOR PLASTI	1						
18	IMOR265	MOLYTONE GREASE(FOR METAL	1						
19	VFK1146	PHILIPS DRIVER(FINE) (00-7	1						
20	VFK1147	PHILIPS DRIVER(FINE) (0-10	1						
21	VFK1148	HEX. DRIVER(1.5)	1						
22	VFK1178	HEX. DRIVER(0.89)	1						
23	VFK1179	HEX. DRIVER(0.71)	1						
24	VFK1190	HEX. WRENCH	1						
25	VFK1209	TORQUE DRIVER(0.4-3KG)	1						
26	VFK0912	POST AXIS DRIVER(1.5MM)	1						
27	VFK1300	A/D BOARD(DAO-12,OUATECH)	1						
28	VFM3580KM	ALIGNMENT TAPE(NO.1)	1						
29	VFM3581KM	ALIGNMENT TAPE(NO.2)	1						
30	VFM3582KM	ALIGNMENT TAPE(NO.3)	1						
32	VFK1159	LISTA SOFTWARE	1						
33	VFK1186	LISTA CABLE	1						
34	VFK0369	TWEEZERS	1						
35	VFK0371	RADIO PRIER	1						
36	VFK0372	CUTTER PRIER	1						
37	VFK0338	TRIMMER ADJUSTMENT DRIVER	1						
38	VFK0337	PHILIPS DRIVER	1						
39	VFM3000EDS	ALIGNMENT TAPE(DV LISTA)	1						
40	VFM3010EDS	ALIGNMENT TAPE(DV COLOR B	1						
45	VFK1160B	RF ADJUSTMENT SOFT	1						
46	VFK1163	RF ADJUSTMENT TOOL	1						

CASING PARTS ASSEMBLY

AJ-D250P

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VYM0187	TOP PLATE ASS'Y	1	
1-1	VHD0274	SCREW	2	
1-2	VMP5903	TOP PLATE ANGLE	1	
1-3	VMX2510	SPACER	2	
1-4	VMX2930	SPACER	1	
1-5	VMZ2325	TOP PANEL BARRIER	1	
2	VMP5354	P.C.BOARD FIXING ANGLE	1	
3	VMX2674	P.C.B. HOLDER GUM	1	
4	VXA5937	CHASSIS HOLDER FRAME ASS'Y	1	
5	VEP00Y68A	FLEXIBLE CABLE P.C.BOARD	1	
6	VYP7370	FRONT PANEL (1) ASS'Y	1	
7	VMP6147	TOP COVER ANGLE	1	
8	VMB2923	BLINDER SPRING	1	
9	VKF2785	BLINDER PANEL	1	
10	VY01401	CASSETTE GUIDE ASS'Y	1	
11	VGf0706	FLEXIBLE CABLE BARRIER	1	
12	VGf0687	SLIDE SW SHEET	2	
13	VGU5582	SWITCH KNOB	2	
14	VGU5067	VOLUME KNOB	1	
15	VMZ2714	AC CABLE BARRIER	1	
16	VMJ24AW270MO	FRONT FLAT CABLE	1	
17	VMP5369	CONNECTOR ANGLE	1	
18	VJH1105	REAR JACK PLATE	1	
19	VYF2633	BOTTOM PLATE ASS'Y	1	
19-1	VMG1197	FOOT	1	
20	VGf0527	FAN GUARD	1	
21	VMX2936	GUIDE SPACER	1	
22	VMT0936	GASKET	1	
23	VMC1483	GND PLATE	1	
24	VMP5356	MECHA ASS'Y FIXING PLATE	1	
50	XTN4+10G	SCREW	5	
51	XTV3+10GFZ	SCREW	4	
52	XTV3+6F	SCREW	18	
53	XTV3+6FFR	SCREW	3	
54	XTV3+6FFZ	SCREW	4	
55	XTV3+8G	SCREW	4	
56	XYE4+EF8	SCREW	1	
57	XQN26+A25FC	SCREW	3	
58	XUC3F	E-RING	2	
59	XYN3+F5FZ	SCREW	4	
60	XSB4+4FCW	SCREW	4	
61	XWC4BFY	WASHER	1	


CASING PARTS ASSEMBLY



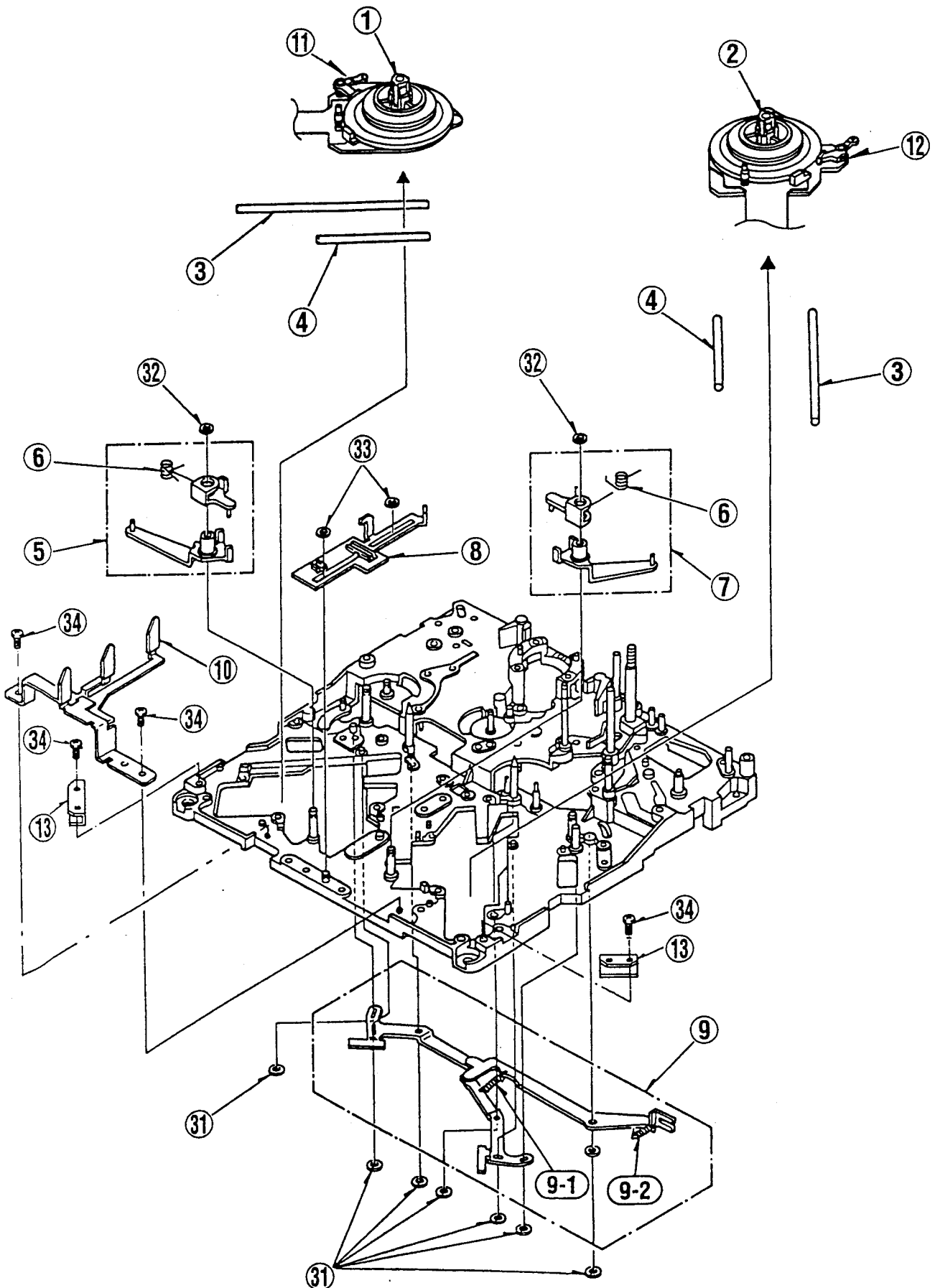
When replacing any of these components, use only the same type.

AJ-D250P

PRT-3

Components identified with the mark  have the special characteristics for safety.
When replacing any of these components, use only the same type.

MECHANICAL CHASSIS ASSEMBLY(1)




Components identified with the mark \triangle have the special characteristics for safety.
When replacing any of these components, use only the same type.

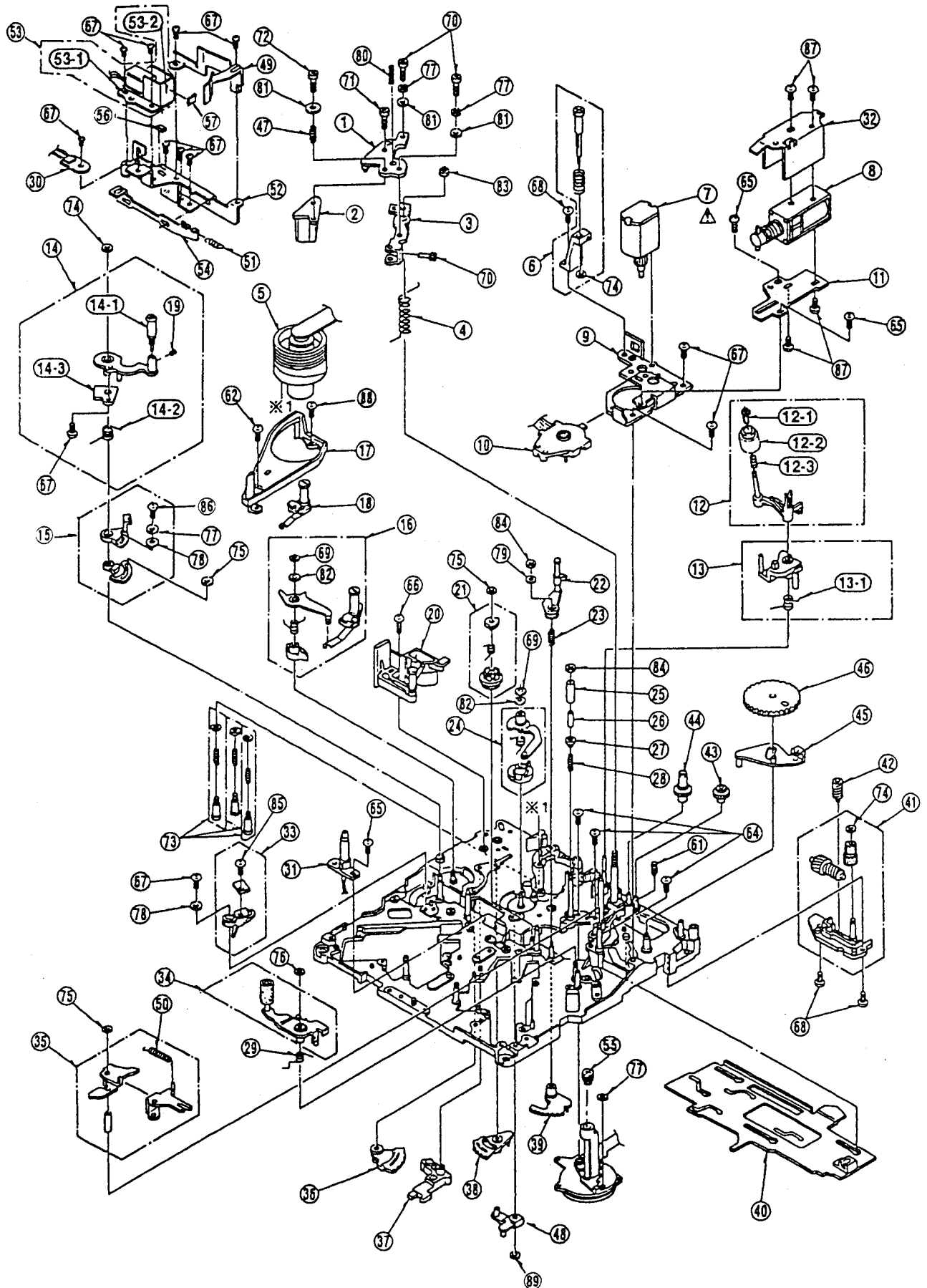
MECHANICAL CHASSIS ASSEMBLY(2)

AJ-D250P

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VXA5554	A/C HEAD BASE (1) ASS'Y	1		67	XQN2+CF3	SCREW	12	
2	VED0419	A/C HEAD	1	(M)	68	XQN2+CF4	SCREW	3	
3	VXA6067	A/C HEAD BASE (2) ASS'Y	1		69	XUC12FP	E-RING	2	
4	VMB2935	A/C HEAD HIGHT SPRING	1		70	XVE2B4FZ	HEX SCREW	3	
5	VEG1498	CYLINDER UNIT	1	(M)	71	XVE2B6FP	HEX SCREW	1	
6	VXA5715	EMERGENCY SHIFT HOLDER ASS'Y	1		72	XVE2B12FP	HEX SCREW	1	
7	VEM0645	LOADING MOTOR (1)A ASS'Y	1	(M)	73	VX00439	SCREW	3	
8	VSJ0227	PINCH SOLENOID	1	(M)	74	VMX0967	CUT WASHER	3	
9	VXA5584	MOTOR ANGLE ASS'Y	1		75	VMX1061	WASHER	3	
10	VES0918	MODE SW ASS'Y	1	(M)	76	VMX1079	CUT WASHER	1	
11	VMA0A35	PINCH SOLENOID BASE	1		77	XWA2B	WASHER	4	
12	VXL2924	CLEANING ARM A ASS'Y	1	(M)	78	XWE2	WASHER	2	
12-1	VMX2150	CLEANER ROLLER HOLDER	1		79	XWE16VW	WASHER	1	
12-2	VXP1963	CLEANER ROLLER ASS'Y	1		80	XXE2A6FP	HEX SCREW	1	
12-3	VMB3114	CLEANER ROLLER SPRING	1		81	XWG2	WASHER	3	
13	VXL2870	T2 ARM ASS'Y	1		82	XWGV15232G	WASHER	2	
13-1	VMB3304	T2 ARM SPRING	1		83	VHD0045	NYLON NUT	1	
14	VXL2831	TENSION ARM A ASS'Y	1	(M)	84	VHN0312	NUT	2	
14-1	VXP1761	TENSION ROLLER	1		85	XQN2+AQ3.5FZ	SCREW	1	
14-2	VMB3220	TENSION LEG SPRING	1		86	XQN2+AJ5	SCREW	1	
14-3	VXA6173	MAGNET HOLDER ASS'Y	1		87	XQN2+A1.5	SCREW	4	
15	VXA5791	TENSION LEG SPRING HOOK ASS'Y	1		88	XQN2+A4	SCREW	1	
16	VXL2709	S1 LOADING ARM ASS'Y	1	(M)	89	VMX1394	CUT WASHER	1	
17	VMD3731	LOADING RAIL	1		*	VXY1512Z1	MECHANISM	1	
18	VXA6379	T1 BOAT ASS'Y	1	(M)					
19	VHD0561	HEX SCREW	1						
20	VXA6052	S POST BASE A ASS'Y	1	(M)					
21	VXP1683	T4 CONNECTION GEAR ASS'Y	1						
22	VXL2772	T4 ARM ASS'Y	1						
23	VMB2950	T4 THRUST SPRING	1						
24	VXL2952	T LOADING ARM ASS'Y	1	(M)					
25	VMS5906	T3 UPPER FRANGE	1						
26	VMS5905	T3 SLEEVE	1						
27	VMS5904	T3 LOWER FRANGE	1						
28	VMB2929	T3 SPRING	1						
29	VMB2933	PINCH RELEASE SPRING	1						
30	VEK7927	INSULATION SENSOR	1						
31	VEK8619	LED HOLDER A P.C.BOARD	1						
32	VMA9411	PINCH SOLENOID ANGLE	1						
33	VXA5820	TENSION SENSOR ASS'Y	1						
34	VXL2835	PINCH ARM ASS'Y	1	(M)					
35	VXL2588	PINCH GUIDE ARM ASS'Y	1						
36	VXA5570	T SECTOR GEAR ASS'Y	1						
37	VXL2838	TENSION LEG. GUIDE ARM	1						
38	VXA5567	S SECTOR GEAR ASS'Y	1						
39	VXA5564	T4 SECTOR GEAR ASS'Y	1						
40	VXA6348	MAIN ROD ASS'Y	1						
41	VXA5627	THRUST SHAFT HOLDER ASS'Y	1						
42	VDG1166	MOTOR WARM GEAR	1						
43	VDG1268	MOTOR EMERGENCY GEAR A(A)	1						
44	VDG1267	MOTOR EMERGENCY GEAR B(A)	1						
45	VXL2889	MAIN CAM ARM ASS'Y	1						
46	VDG1168	MAIN CAM GEAR	1	(M)					
47	VMB2937	A/C HEAD ADJUST SPRING	1						
48	VXL2600	EJECT ARM ASS'Y	1						
49	VMD3475	T1 GUIDE ASS'Y	1						
50	VMB2934	SPRING	1						
51	VMB3051	CLEANER RETURN SPRING	1						
52	VXA6077	CLEANER BASE 1 ASS'Y	1						
53	VXA6078	CLEANER SOLENOID ASS'Y	1						
53-1	VSJ0226	CLEANER SOLENOID	1	(M)					
53-2	VMA9877	CLEANER SOLENOID BASE	1						
54	VMM0429	CLEANER INTERLOCK	1						
55	VX00556	THRUST SCREW ASS'Y	1	(M)					
56	VMT0871	SILENCER A	1						
57	VMT0872	SILENCER B	1						
61	VHD0356	SCREW	1						
62	XQN2+A3	SCREW	1						
64	XQN2+A35FZ	SCREW	3						
65	XQN2+AM2	SCREW	3						
66	XQN2+AM4	SCREW	1						

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MECHANICAL CHASSIS ASSEMBLY(2)

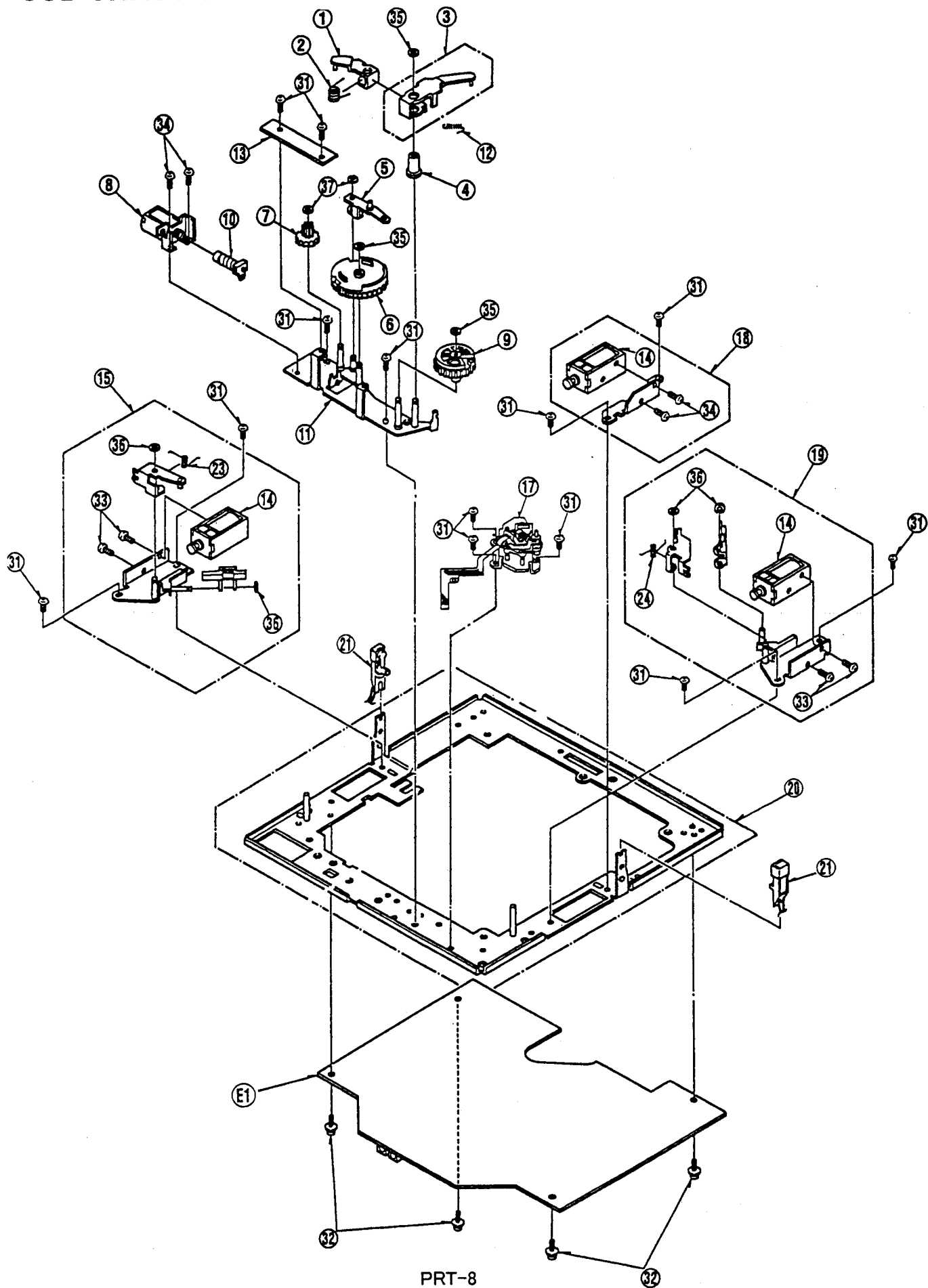


SUB CHASSIS ASSEMBLY


AJ-D250P

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VXL2656	MIC DRIVE ARM (A) ASS'Y	1	
2	VMB3018	MIC DRIVE SPRING	1	
3	VXL2657	MIC DRIVE ARM (B) ASS'Y	1	
4	VDB1429	MIC DRIVE ARM BOSS	1	
5	VXL2613	REEL DRIVE ARM ASS'Y	1	
6	VDG1192	REEL DRIVE CAM GEAR	1	
7	VDG1193	REEL DRIVE WORM WHEEL	1	
8	VEW0585	REEL DRIVE MOTOR ASS'Y	1 (M)	
9	VDG1211	MIC GENEVA GEAR	1	
10	VXP1698	REEL DRIVE WORM ASS'Y	1	
11	VXA5628	MOTOR BASE ASS'Y	1	
12	VMB3019	MIC DRIVE RETURN SPRING	1	
13	VEK7726	REEL SENSOR P.C.BOARD	1	
14	VJSJ0216	BRAKE SOLENOID	3 (M)	
15	VXA5575	S-BRAKE SOLENOID BASE ASS'Y	1	
17	VXA6199	DISTINCTION SW ASS'Y	1 (M)	
18	VXA5579	M STOPPER SOLENOID ASS'Y	1	
19	VXA5887	T-BRAKE SOLENOID BASE ASS'Y	1	
20	VXK1543	SUB CHASSIS	1	
21	VEK7692	SENSOR HOLDER ASS'Y	1	
22	VMS6193	T BRAKE RELEASE ARM SHAFT	1	
23	VMB2957	S BRAKE SPRING	1	
24	VMB2987	T BRAKE SPRING	1	
31	XQN2+CF3	SCREW	13	
32	XYN26+K6	SCREW	4	
33	XQN2+A1.5	SCREW	2	
34	XQN2+A2	SCREW	2	
35	VMX1079	CUT WASHER	5	
36	VMX0967	CUT WASHER	4	
37	VMX1548	CUT WASHER	2	
38	XQN2+A1.5	SCREW	4	
E14	VEP82218C	SERVO P.C.BOARD	1	

SUB CHASSIS ASSEMBLY



PRT-8

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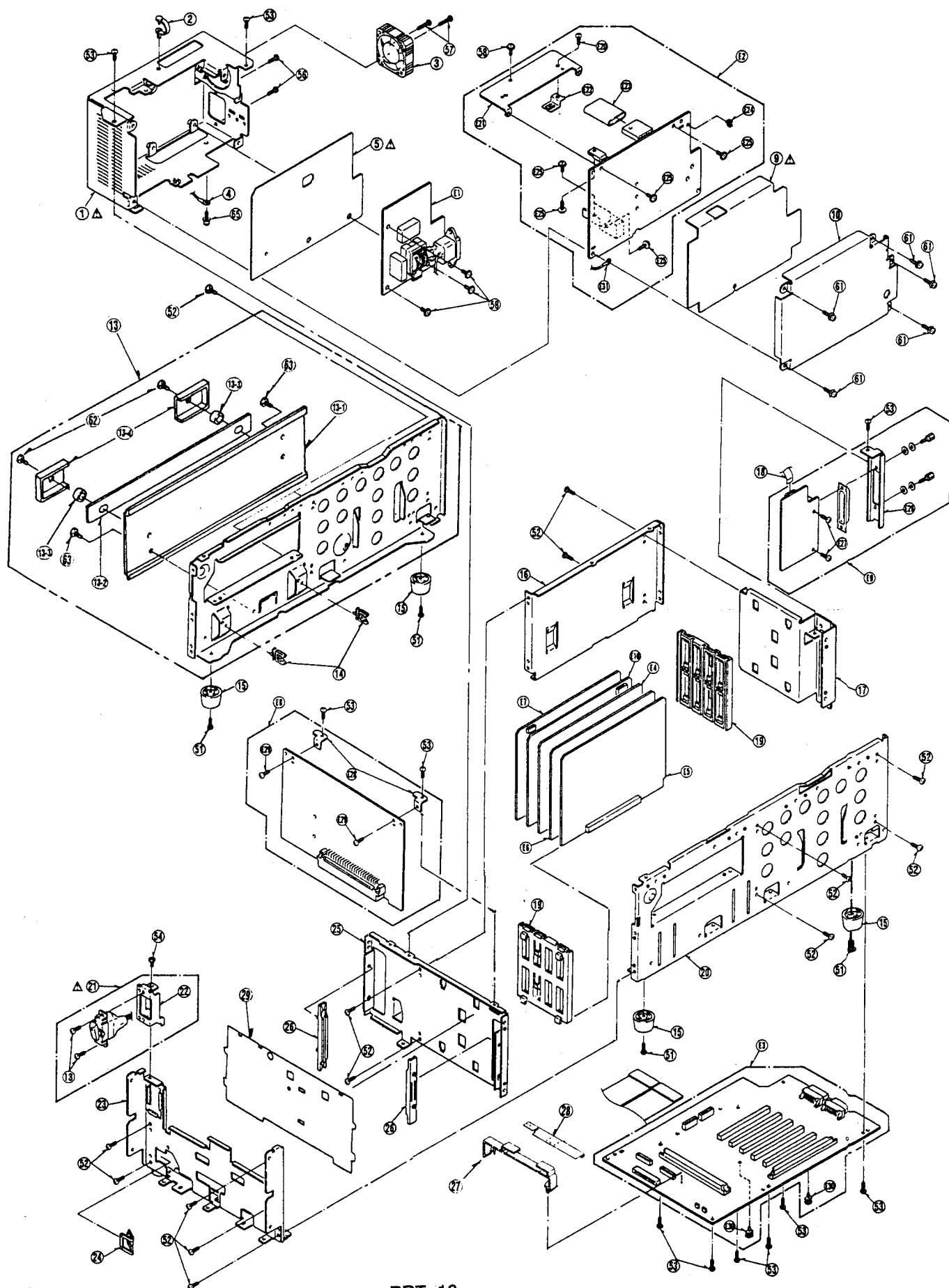
CHASSIS FRAME ASSEMBLY

AJ-D250P

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VSC4636	SHIELD CASE	1	
2	VJF0469	CLAMPER	1	
3	VRF0197	FAN MOTOR	1	
4	VEE9627	FG CABLE	1	
5	VMZ2752	SHIELD SHEET A	1	
9	VMZ2753	SHIELD SHEET B	1	
10	VSC4637	SHIELD COVER	1	
13	VYH0278	HANDLE ASS'Y	1	
13-1	VGM1569	HANDLE DECORATION PLATE	1	
13-2	VKH0388	HANDLE	1	
13-3	VMX2845	SPACER	2	
13-4	VMP5938	HANDLE ANGLE	2	
14	VJF0004	WIRE SADDLE	2	
15	VKA0117	PLASTIC FOOT	4	
16	VMP5365	REAR CENTER FRAME	1	
17	VMP5353	BACK FRAME	1	
18	VWJ09SW220L0	232C FLAT CABLE	1	
19	VGQ4426	GUIDE RAIL L	2	
20	VMP5351	SIDE FRAME (R)	1	
21	VES0858	POWER SWITCH	1	
22	VMP5363	POWER SW BRACKET	1	
23	VMP5361	FRONT FRAME	1	
24	VJF1259	EDGE HOLDER	2	
25	VMP5352	CENTER FRAME	1	
26	VGQ1016	GUIDE RAIL	2	
27	VKG0555	CONNECTOR HOLDER	1	
28	VMP5556	CLAMPER ANGLE	1	
29	VGf0723	BLIND SHEET	1	
51	XTV3+10F	SCREW	4	
52	XTV3+6F	SCREW	13	
53	XTV3+6FFR	SCREW	9	
54	VHD5013	SCREW	1	
55	XYE4+EF8	SCREW	1	
56	XSN3+8FZ	SCREW	2	
57	XSB3+16FZS	SCREW	2	
58	XTW3+8LR	SCREW	4	
61	XYE3+EF8	SCREW	5	
62	XSS4+14F	SCREW	2	
63	XTV3+6F	SCREW	2	
E9	VEP06B93B	RS-232C P.C. BOARD	1	

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CHASSIS FRAME ASSEMBLY

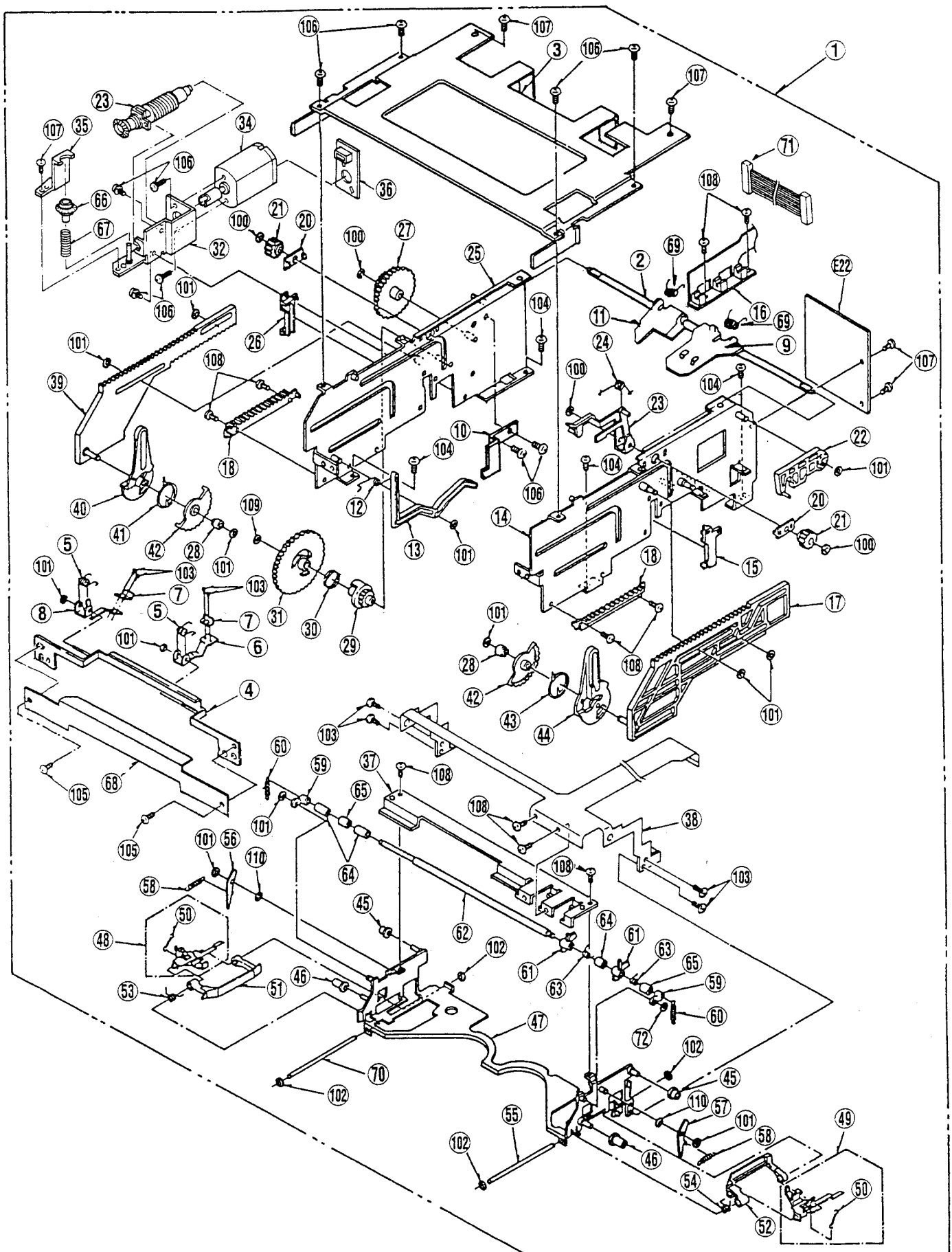


CASSETTE COMPARTMENT ASSEMBLY

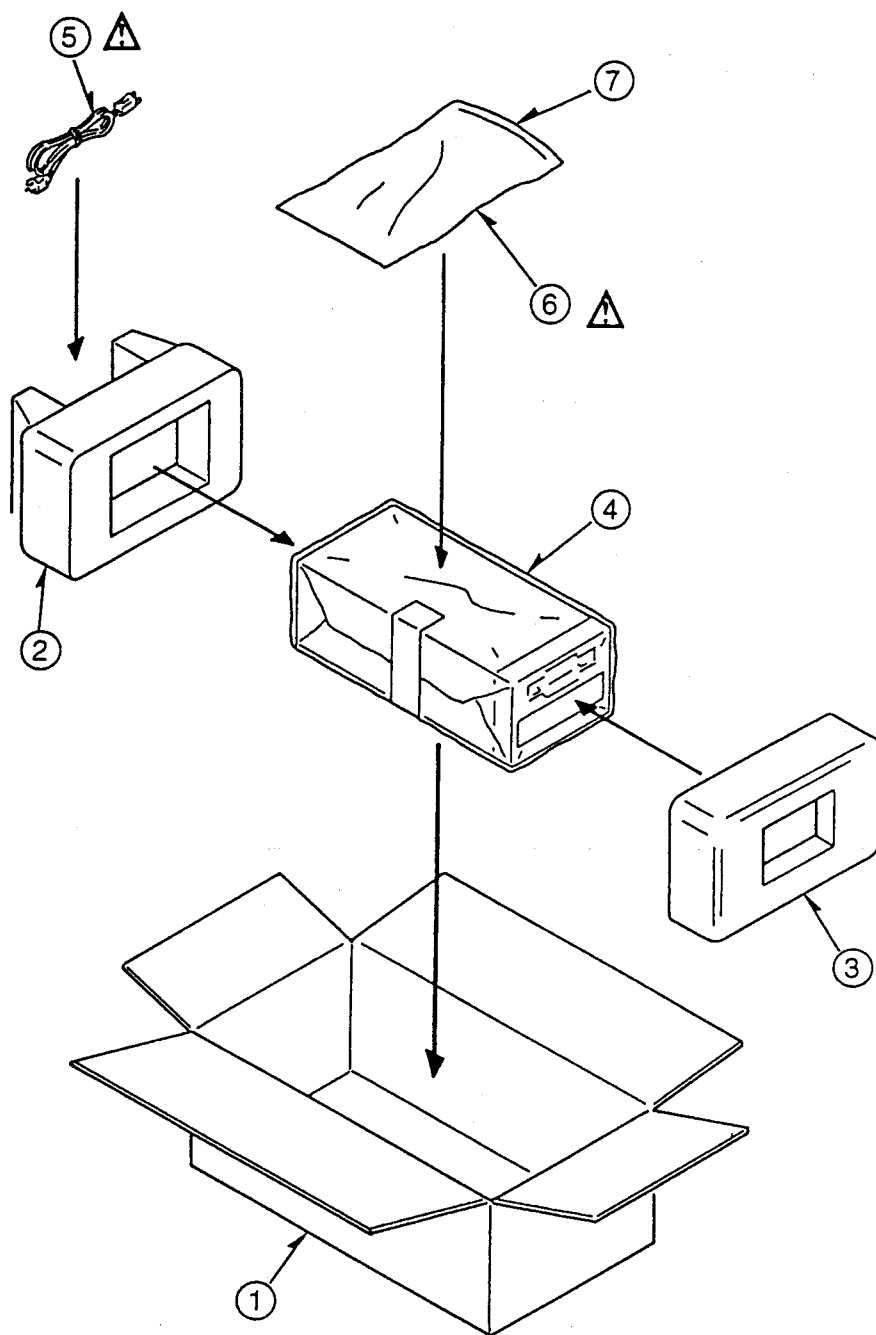
AJ-D250P

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VXA6593	CASSETTE COMPARTMENT	1		104	XON2+CF3	SCREW	4	
2	VMS5865	MAIN SHAFT	1		105,06	VHD1323	SCREW	7	
3	VMA9849	TOP PLATE	1		107	XON2+A3	SCREW	5	
4	VXA6572	FRONT GUIDE 1 ASS'Y	1		108	LMHD16064	SCREW	10	
5	VMB3075	M GUIDE SPRING	2		109	XWGV2Y4G	WASHER	2	
6	VML3191	M GUIDE RIGHT LEVER	1		110	XWGV2Z5G	WASHER	2	
7	VML3192	M FRONT GUIDE	2						
8	VML3190	M GUIDE LEFT LEVER	1						
9	VML3397	CASSETTE PROTECT PLATE	1		E13	VEP80856A	CARRIGE P.C.BOARD	1	
10	VMA9760	L OPENER	1						
12	VMB2926	SPRING	1						
13	VML2A50	BLINDER PANEL OPENER	1						
14	VXA6074	R SIDE PLATE 1 ASS'Y	1						
15	VML3282	SUB RAIL (R)	1						
16	VEK7695	SIDE FLEXIBLE	1						
17	VXA5766	MAIN RACK R ASS'Y	1						
18	VDG1156	WIPER RACK	2						
20	VDB1395	MAIN SHAFT ANGLE	2						
21	VDG1412	INTERLOCK GEAR	2						
22	VML3193	OPENER DRIVE ARM	1						
23	VXL2692	OPENER ANGLE ASS'Y	1						
24	VMB2979	SPRING	1						
25	VXA6072	SIDE PLATE L 1 ASS'Y	1						
26	VML3281	SUB RAIL (L)	1						
27	VDG1413	INTERMEDIATE GEAR	1						
28	VDP1643	WIPER ROLLER	2						
29	VDG1414	CLUTCH GEAR	1						
30	VMB2980	CLUTCH SPRING	1						
31	VDG1236	WORM WHEEL	1						
32	VXA5848	MOTOR ANGLE (A) ASS'Y	1						
33	VXP1797	E.E SLOT IN WORM ASS'Y	1						
34	VXA5597	MOTOR ASS'Y	1 (M)						
35	VMA9673	EMERGENCY ANGLE	1						
36	VEK7793	MOTOR P.C.BOARD	1						
37	VMA9668	HOLDER PLATE	1						
38	VEK7715	HOLDER FLEXIBLE ASS'Y	1						
39	VXA6075	MAIN RACK (L) ASS'Y	1						
40	VML3485	WIPER ARM L	1						
41	VMB3391	WIPER SPRING L	1						
42	VDG1163	WIPER GEAR	2						
43	VMB3390	WIPER SPRING R	1						
44	VML3484	WIPER ARM R	1						
45	VDP1642	CASSETTE GUIDE ROLLER (2)	2						
46	VDP1641	CASSETTE GUIDE ROLLER (1)	2						
47	VXA5757	CASSETTE HOLDER 1 ASS'Y	1						
48	VXA5758	ROD L	1						
49	VXA5759	ROD R	1						
50	VMB3064	SLIDE SPRING	2						
51	VML3249	SIDE GUIDE L	1						
52	VML3250	SIDE GUIDE R	1						
53	VMB3061	SLIDE GUIDE SPRING L	1						
54	VMB3062	SLIDE GUIDE SPRING R	1						
55	VMS6666	KICK OFF ROD SHAFT	2						
56	VML2A54	KICK OFF ARM L	1						
57	VML2A55	KICK OFF ARM R	1						
58	VMB2928	KICK OFF SPRING	2						
59	VML2A53	CASSETTE HOLDER ARM	2						
60	VMB2927	CASSETTE HOLDER SPRING	2						
61	VMX2833	M-L DETECTION ROLLER	2						
62	VMS5882	CASSETTE HOLDER SHAFT	1						
63	VMB3253	M-L DETECTION SPRING	2						
64	VMX2559	CASSETTE PRESSURE ROLLER(2)	3						
65	VMX2524	CASSETTE PRESSURE ROLLER(1)	1						
66	VDG1246	EMERGENCY GEAR	1						
67	VMB3109	EMERGENCY SPRING	1						
68	VMZ2661	FRONT GUIDE COVER	1						
71	VEE9577	CABLE	1						
100	VMX0653	CUT WASHER	4						
101	VMX0967	CUT WASHER	14						
102	VMX1061	WASHER	4						
103	XON16+A2	SCREW	8						

CASSETTE COMPARTMENT ASSEMBLY



PACKING PARTS ASSEMBLY



PACKING PARTS ASSEMBLY

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	VP60A24	PACKING CASE	1						
2	VPN4611	CUSHION (R)	1						
3	VPN4610	CUSHION (L)	1						
4	VPF0230	POLYETHYLENE BAG	1						
5	VJA0488	POWER CODE	1						
6	VOT8188	OPERATING INSTRUCTIONS	1						
7	VXF0170	E.EJECT ASS'Y	1						

ELECTRICAL REPLACEMENT PARTS LIST

AJ-D250P

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E1	VEP01791A	POWER 1 P.C.BOARD	1	(RTL)	■ E1	VEP01791A	POWER 1 P.C.BOARD	1	(RTL)
■ E2	VEP01792A	POWER 2 P.C.BOARD	1	(RTL)	! C1101, 02	EC0U2A224MV	P. CAPACITOR 100V 0.22U	2	
■ E3	VEP000E6A	MOTHER P.C. BOARD	1	(RTL)	! F1101	XBA1C25NB5	FUSE	1	
■ E4	VEP03E32B	TBC P.C. BOARD	1	(RTL)	! L1101	ELF18D602	FILTER	1	
■ E5	VEP03F00A	DIGITAL CORE P.C. BOARD	1	(RTL)	! P1101	VJS2985	CONNECTOR (FEMALE)	1	
■ E6	VEP03F01A	VIDEO I/O P.C. BOARD	1	(RTL)	P1102	VJP2639	CONNECTOR (MALE)	1	
■ E7	VEP04737A	AUDIO P.C. BOARD	1	(RTL)	! R1101	ERC12AGM334	S. RESISTOR 1/2W 330K	1	
■ E8	VEP05348C	RF P.C. BOARD	1	(RTL)			MISCELLANEOUS		
■ E9	VEP06B93B	RS-232C P.C. BOARD	1	(RTL)		VJF0867	CONNECTOR SPACER	1	
■ E10	VEP06D02A	AV SYSCON P.C. BOARD	1	(RTL)		VEE9627	FG CABLE	1	
■ E11	VEP03F25A	REAR JACK P.C. BOARD	1	(RTL)		VMZ0429	FUSE COVER	1	
■ E12	VEP06B94C	FRONT P.C. BOARD	1	(RTL)					
■	VEP00Y35B	REMOTE P.C. BOARD	1	(RTL) FOR VEP06B94C	■ E2	VEP01792A	POWER 2 P.C. BOARD	1	(RTL)
■ E13	VEP80856A	CARRIAGE P.C. BOARD	1	(RTL)	! C1001, 02	VCK0260M222A	C. CAPACITOR 2200P	2	
■ E14	VEP02545J	SERVO P.C. BOARD	1	(RTL)	! C1003	EC0U2A224MV	P. CAPACITOR 100V 0.22U	1	
■ E15	VEP00Y68A	FFC P.C. BOARD	1	(RTL)	! C1004	VCK0260M102A	C. CAPACITOR 1000P	1	
■ E16	VEK7793	MOTOR P.C. BOARD	1	(RTL)	C1006	ECEC2GB221D	E. CAPACITOR 400V 220U	1	
■ E17	VEK8619	LED HOLDER P.C. BOARD	1	(RTL)	C1007	VCK0106K151	C. CAPACITOR 150P	1	
■ E18	VEK7726	REEL DRIVE SENSOR P.C. BOARD	1	(RTL)	C1008	ECOE6473KF	P. CAPACITOR 630V 0.047U	1	
					C1010	ECA1VXLV470	E. CAPACITOR 35V 47U	1	
					C1011	ECA0GXLV331	E. CAPACITOR 4V 330U	1	
					C1012	ECQB1H102JF	P. CAPACITOR 50V 1000P	1	
					C1013	ECKF1H271KB	C. CAPACITOR 50V 270P	1	
					C1020	EEUFA1E681E	E. CAPACITOR 25V 680P	1	
					C1021, 22	EEUFA1A562E	E. CAPACITOR 10V 5600U	2	
					C1023	EEUFA1A122E	E. CAPACITOR 10V 1200U	1	
					C1024	EEUFA1E471E	E. CAPACITOR 25V 470U	1	
					C1025	ECA1EHG101	E. CAPACITOR 25V 100U	1	
					C1026	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
					C1027-29	ECA1CHG101	E. CAPACITOR 16V 100U	3	
					C1030, 31	ECA1EHG101	E. CAPACITOR 25V 100U	2	
					C1032	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
					C1033	ECQB1H473JF	P. CAPACITOR 50V 0.047U	1	
					C1034-37	ECKD2H101KB	C. CAPACITOR 500V 100P	4	
					C1038	ECA1EHG101	E. CAPACITOR 25V 100U	1	
					C1039	ECQB1H104JF	P. CAPACITOR 50V 0.1U	1	
					D1001	D3SBA60	DIODE	1	
					D1003	AP01C	DIODE	1	
					D1004	ERA22-02	DIODE	1	
					D1005	MA4240-L	DIODE	1	
					D1006	MA723	DIODE	1	
					D1010	RL42P	DIODE	1	
					D1011	FMB-24H	DIODE	1	
					D1012	31D004	DIODE	1	
					D1013	RL22P	DIODE	1	
					D1014	MA4130L	DIODE	1	
					D1016	31D004	DIODE	1	
					! IC1001	STRM6545	IC	1	
					IC1002	UPC1093J	IC	1	
					IC1003	AN7912F	IC	1	
					J1	VEE0800	CABLE	1	
					! L1001	ELF18D602	FILTER	1	
					L1002, 03	EXCELSA35	COIL	2	
					L1010	VL00655K220	COIL 22UH	1	
					L1011	VL00354	COIL	1	
					L1012	VL00605	COIL	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L1013, 14	VL00655K220	COIL 22UH	2		C9127	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
P1001	VJP2639	CONNECTOR (MALE)	1		C9128	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
P1002, 03	VJP3324	CONNECTOR (MALE)	2		C9129, 30	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
P1004	VJP1230T	CONNECTOR (MALE) 3P	1		C9131	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
Q1001	PC111LY1	PHOTO COUPLER	1		C9132, 33	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
Q1002	2SD1474	TRANSISTOR	1		C9134	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
R1001	ERUSTEK2R2	F. RESISTOR 5W 2.2	1		C9135, 36	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
R1003	ERDS2T0	C. RESISTOR 1/4W 0	1		C9137	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
R1004	ERG3SJ393	M. RESISTOR 3W 39K	1		C9138, 39	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
R1005-07	ERG1SJ473	M. RESISTOR 1W 47K	3		C9140	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
R1008	ERDS2FJ221	C. RESISTOR 1/4W 220	1		C9141, 42	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
R1009, 10	ERDS2FJ271	C. RESISTOR 1/4W 270	2		C9143	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
R1011	ERW1PKR39	M. RESISTOR 1W 0.39	1		C9144-46	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
R1012	ERDS2FJ152	C. RESISTOR 1/4W 1.5K	1		C9147	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
R1013	ERDS2FJ101	C. RESISTOR 1/4W 100	1		C9148, 49	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
R1014	ERDS2FJ332	C. RESISTOR 1/4W 3.3K	1		C9150	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
R1015, 16	ERDS1TJ395	C. RESISTOR 1/2W 3.9M	2		C9151, 52	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
R1017	ERDS2FJ103	C. RESISTOR 1/4W 10K	1		C9153	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
R1020	ERDS2TJ681	C. RESISTOR 1/4W 680	1		C9154	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
R1021	ERG2SJ681	M. RESISTOR 2W 680	1		C9155	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
R1022	ERG2SJ471	M. RESISTOR 2W 470	1		C9156, 57	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
R1024	ER0S2CKF1801	M. RESISTOR 1/4W 1.8K	1		C9158	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
R1025	ER0S2CKF3601	M. RESISTOR 1/4W 3.6K	1		C9159	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
R1026	ERDS2TJ561	C. RESISTOR 1/4W 560	1		C9161	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
R1027, 28	ERDS2T0	C. RESISTOR 1/4W 0	2		C9162	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
R1029	ER0S2CKF4300	M. RESISTOR 1/4W 430	1		C9163, 64	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
R1031	ERDS2TJ223	C. RESISTOR 1/4W 22K	1		C9165	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
R1032	ERDS2TJ271	C. RESISTOR 1/4W 270	1		C9166-68	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
R1033	ERG2SJ681	M. RESISTOR 2W 680	1		C9169	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
T1001	VLT0885	TRANSFORMER	1		C9170, 71	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
TP1001	VJR0646	TEST POINT	1		C9172	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
VR1001	VRV0112B501	V. RESISTOR 500	1		C9173, 74	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
		MISCELLANEOUS			C9175	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
	VJF0496	CLAMPER	1		C9176	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
	VJF0867	CONNECTOR SPACER	1		C9177	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
	VMP5282	TRANSISTOR CLIP	1		C9178, 79	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
	VMZ0965	CAPACITOR COVER	3		C9180	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
	VSC3434	HEAT SINK	2		C9181-83	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
	XTN3+8J	SCREW	1		C9184	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
	XYN3+K8	SCREW	5		C9188, 89	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
	VSC4638	HEAT SINK	1		C9190, 91	ECEA1CGE470	E. CAPACITOR 16V 47U	2	
					C9192-94	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
■ E3	VEP000E6A	MOTHER P. C. BOARD	1 (RTL)		C9195	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
					C9196, 97	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2	
C9101, 02	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		C9198	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
C9103	ECEA1CGE470	E. CAPACITOR 16V 47U	1		C9199	ECEA1CGE101	E. CAPACITOR 16V 100U	1	
C9104	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1		C9200	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C9105	ECEA1CGE470	E. CAPACITOR 16V 47U	1		C9201	ECEA0JGE471	E. CAPACITOR 6.3V 470U	1	
C9106, 07	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		C9203	ECUM1H272KBN	C. CAPACITOR CH 50V 2700P	1	
C9108	ECEA1CGE470	E. CAPACITOR 16V 47U	1		C9204	ECUM1H332KBN	C. CAPACITOR CH 50V 3300P	1	
C9109, 10	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		C9205	ECA1VF0561	E. CAPACITOR 35V 560U	1	
C9111	ECEA1CGE470	E. CAPACITOR 16V 47U	1		C9210	ECEA1HGE2R2	E. CAPACITOR 50V 2.2U	1	
C9112-14	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3		C9211	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C9115	ECEA1CGE470	E. CAPACITOR 16V 47U	1		C9212	ECEA1CGE101	E. CAPACITOR 16V 100U	1	
C9116	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1		C9213	ECEA1CGE470	E. CAPACITOR 16V 47U	1	
C9117	ECEA1CGE470	E. CAPACITOR 16V 47U	1		C9251	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C9118, 19	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		C9252	ECEA1CGE101	E. CAPACITOR 16V 100U	1	
C9120	ECEA1CGE470	E. CAPACITOR 16V 47U	1		C9253	EEUFC1A102	E. CAPACITOR 10V 100U	1	
C9121	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1		C9254	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
C9122	ECEA1CGE470	E. CAPACITOR 16V 47U	1		C9304-06	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3	
C9123-25	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	3		C9501	ECEC1CP123B	E. CAPACITOR 16V 0.012M	1	
C9126	ECEA1CGE470	E. CAPACITOR 16V 47U	1						
					D9101, 02	MA3062M	DIODE	2	
					D9103	8P2M	DIODE	1	
					D9104	MA4030-L	DIODE	1	
					D9105-07	MT1MA151K	DIODE	3	
					D9108	MA701A	DIODE	1	
					D9109-15	MT1MA151K	DIODE	7	
					D9116	SFPB-64	DIODE	1	
					D9201	MA115	DIODE	1	
					D9202	MA4270	DIODE	1	
					D9204	MA115	DIODE	1	
					D9205	MA3062M	DIODE	1	
					FL9101-16	VLF0931	FILTER	16	

Components identified with the mark Δ have the special characteristics for safety.
When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC9101	XC62AP5002P	IC	1		TP9251	EYF6CU	TEST POINT	1	
IC9103	XC62DN5002P	IC	1		VR9251	EVW7JGA00B13	V.RESISTOR 1K	1	
IC9104	AN78M09	IC	1		VR9501	EVMEASA00B54	V.RESISTOR 50K	1	
IC9105	UPC393G2	IC	1				MISCELLANEOUS		
IC9106	LM2675M-ADJ	IC	1			VKC0295	BOARD SPACER	1	
IC9301	UPC4558G2	IC	1						
IC9302	TC7SH00F	IC	1						
J9101, 02	ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	2						
L9251	VL00765	COIL	1						
L9252	ERJ8GEY0R00	M.RESISTOR CH 1/8W 0	1						
L9253-55	VL00319K1R0	COIL 1.0UH	3		■ E4	VEP03E32B	TBC P.C. BOARD	1	(RTL)
P9101, 02	VJS3324	CONNECTOR (FEMALE)	2		C3001	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
P9301	VJS2898A064P	CONNECTOR (FEMALE)	1		C3002-05	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	4	
P9304-07	VJS4064N160	CONNECTOR	4		C3006	ECEV1CV2200	E.CAPACITOR CH 16V 22U	1	
P9308	VJS3537B024G	CONNECTOR (FEMALE)	1		C3007, 08	ECEV1CV4700	E.CAPACITOR CH 16V 47U	2	
P9310, 11	VJS3600F016K	CONNECTOR (FEMALE)	2		C3009	ECEV0JV1010	E.CAPACITOR CH6.3V 100U	1	
P9312	VJS4064N160	CONNECTOR	1		C3010	ECEV1CV4700	E.CAPACITOR CH 16V 47U	1	
P9501	VJS2899A096	CONNECTOR (FEMALE)	1		C3011	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
P9502	VJP1231T	CONNECTOR (MALE) 4P	1		C3012	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
P9503	VJP1230T	CONNECTOR (MALE) 3P	1		C3013	ECEV1CV2200	E.CAPACITOR CH 16V 22U	1	
P9504, 05	VJP3949C070H	CONNECTOR (MALE)	2		C3014-17	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	4	
Q9101	2SD2136-Q	TRANSISTOR	1		C3018	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
Q9102, 03	2SB1073-R	TRANSISTOR	2		C3019, 20	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2	
Q9106-10	2SD1119-R	TRANSISTOR	5		C3021, 22	ECEV1CV2200	E.CAPACITOR CH 16V 22U	2	
Q9112	2SD1119-R	TRANSISTOR	1		C3023, 24	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2	
Q9113	2SB709A-R	TRANSISTOR	1		C3025	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
Q9115	2SD601A-R	TRANSISTOR	1		C3026	ECUX1E681JCV	C.CAPACITOR CH 25V 680P	1	
Q9116	2SB709A-R	TRANSISTOR	1		C3028-30	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	3	
Q9117	2SD1119-R	TRANSISTOR	1		C3031	ECEV1CV2200	E.CAPACITOR CH 16V 22U	1	
Q9202	2SD601A-R	TRANSISTOR	1		C3032	ECEV1CV4700	E.CAPACITOR CH 16V 47U	1	
Q9203	2SC3074Y	TRANSISTOR	1		C3033	ECUX1H820JCV	C.CAPACITOR CH 50V 82P	1	
QR9101	UN2113	TRANSISTOR-RESISTOR	1		C3034	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
QR9102	UN2211	TRANSISTOR-RESISTOR	1		C3035	ECEV1CV2200	E.CAPACITOR CH 16V 22U	1	
R9101	ERJ6GEYJ4R7	M.RESISTOR CH 1/10W 4.7K	1		C3036, 37	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2	
R9102, 03	ERJ6GEYG560	M.RESISTOR CH 1/10W 56	2		C3038	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
R9106-10	ERJ6GEYG560	M.RESISTOR CH 1/10W 56	5		C3039	ECEV1CV2200	E.CAPACITOR CH 16V 22U	1	
R9112	ERJ6GEYG560	M.RESISTOR CH 1/10W 56	1		C3041	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
R9116	ERJ6GEYG680	M.RESISTOR CH 1/10W 68	1		C3043	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
R9120	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1		C3044-46	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	3	
R9121	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1		C3047	ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
R9122	ERJ6GEYG181	M.RESISTOR CH 1/10W 180	1		C3048-50	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	3	
R9123	ERJ6GEYG121	M.RESISTOR CH 1/10W 120	1		C3051	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
R9124	ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	1		C3054, 55	ECEV1H0100	E.CAPACITOR CH 50V 1U	2	
R9125	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1		C3056	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
R9126	ERJ6GEYJ820	M.RESISTOR CH 1/10W 82	1		C3057	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
R9127, 28	ERJ6GEYG101	M.RESISTOR CH 1/10W 100	2		C3058	ECUX1H060DCV	C.CAPACITOR CH 50V 6P	1	
R9129	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1		C3060, 61	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2	
R9130	ERJ6GEYG331	M.RESISTOR CH 1/10W 330	1		C3101-17	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	17	
R9131	ERJ6GEYG224	M.RESISTOR CH 1/10W 220K	1		C3201-09	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	9	
R9132-37	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	6		C3210	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
R9138-40	ERJ6GEYG680	M.RESISTOR CH 1/10W 68	3		C3211	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
R9141	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1		C3212	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
R9144	ERJ6GEYG680	M.RESISTOR CH 1/10W 68	1		C3214	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
R9152	ERJ6GEYG560	M.RESISTOR CH 1/10W 56	1		C3216-22	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	7	
R9201	ER012HJ1R0P	F.RESISTOR 1/2W 1	1		C3223	ECEV1EN3R30	E.CAPACITOR CH 25V 3.3U	1	
R9202	ERJ6GEYG222	M.RESISTOR CH 1/10W 2.2K	1		C3224, 25	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2	
R9204, 05	ERJ6GEYG221	M.RESISTOR CH 1/10W 220	2		C3226	ECEV1EN3R30	E.CAPACITOR CH 25V 3.3U	1	
R9206	ERJ6GEYG680	M.RESISTOR CH 1/10W 68	1		C3227	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
R9207	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1		C3229	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	1	
R9208	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1		C3230, 31	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2	
R9252	ERJ6GEYG182	M.RESISTOR CH 1/10W 1.8K	1		C3232	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	1	
R9253	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1		C3233	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	1	
R9308, 09	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	2		C3234	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
T9201	VLT0889	TRANSFORMER	1		C3235, 36	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2	
TG9251	EYF6CU	TEST POINT	1		C3237, 38	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	2	
					C3239-41	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	3	
					C3242	ECUX1H101JCV	C.CAPACITOR CH 50V 100P	1	
					C3244-47	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	4	
					C3301-17	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	17	
					C3318, 19	ECEV1CV4700	E.CAPACITOR CH 16V 47U	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C3320	ECEV0JV1010	E. CAPACITOR CH6.3V	100U	1	C3608, 09	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C3321	ECEV1CV4700	E. CAPACITOR CH 16V	47U	1	C3610	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C3322, 23	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C3611	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C3324	ECEV1CV2200	E. CAPACITOR CH 16V	22U	1	C3612	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C3325-30	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	6		C3613	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C3331	ECEV1CV4700	E. CAPACITOR CH 16V	47U	1	C3614	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C3332	ECEV1CV2200	E. CAPACITOR CH 16V	22U	1	C3616	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C3333-35	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		C3617	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C3401	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1		C3618	ECEV1EN2200	E. CAPACITOR CH 25V 22U	1	
C3402-07	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	6		C3619-23	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	5	
C3408	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1						
C3409-30	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	22		D3001	MA142WK	DIODE	1	
C3431	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1		D3002	MA335-R	DIODE	1	
C3501	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1		D3201	MA715	DIODE	1	
C3502	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1		D3202, 03	MA152K	DIODE	2	
C3503-06	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4		D3204	MA335-R	DIODE	1	
C3507	ECEV1HN0100	E. CAPACITOR CH 50V 1U	1		D3501	MA142WK	DIODE	1	
C3508-10	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		D3502	MA142K	DIODE	1	
C3511	ECEV1CV4700	E. CAPACITOR CH 16V	47U	1	D3503, 04	MA152K	DIODE	2	
C3512	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		D3505, 06	MA142K	DIODE	2	
C3513-16	ECEV1CV4700	E. CAPACITOR CH 16V	47U	4	D3507	MA335-R	DIODE	1	
C3517	ECEV0JV1010	E. CAPACITOR CH6.3V	100U	1	D3508	MA152K	DIODE	1	
C3518	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1						
C3519	ECEV1CV4700	E. CAPACITOR CH 16V	47U	1	FL3001-09	VLF0941C223	FILTER	9	
C3520	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		FL3011	VL00415	COIL	1	
C3521, 22	ECEV1CV2200	E. CAPACITOR CH 16V	22U	2	FL3301-04	VLF0941C223	FILTER	4	
C3523, 24	ECEV1CV4700	E. CAPACITOR CH 16V	47U	2	FL3501-06	VLF0941C223	FILTER	6	
C3525-28	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4						
C3529	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC3001	NJM78L09UA	IC	1	
C3530, 31	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		IC3002	XC62AP5002P	IC	1	
C3532	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC3003	NJM79L09UA	IC	1	
C3533	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1		IC3004	XC62DN5002P	IC	1	
C3534	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC3005	TC7S14F	IC	1	
C3535	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		IC3006, 07	DM74LS221SJ	IC	2	
C3536	ECUX1H181JCV	C. CAPACITOR CH 50V 180P	1		IC3008	TVHC74FT	IC	1	
C3537, 38	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		IC3009	NJM082BV	IC	1	
C3539	ECEV1HN0100	E. CAPACITOR CH 50V 1U	1		IC3010	TC4W53FU	IC	1	
C3540	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1		IC3011	TC7S00FU	IC	1	
C3541, 42	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		IC3012	TVHC244FT	IC	1	
C3543	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC3013	TC7S04FU	IC	1	
C3544	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		IC3014	TC7SH00FU	IC	1	
C3545	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1		IC3101-03	TVHC244FT	IC	3	
C3546-48	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		IC3104	T160G70-1601	IC	1	
C3549	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC3105	TVHC04FT	IC	1	
C3551	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1		IC3106	TVHC244FT	IC	1	
C3552, 53	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		IC3107, 08	UPD42280G3	IC	2	
C3554, 55	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	2		IC3109, 10	TVHC244FT	IC	2	
C3556-58	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		IC3201	TVHC257FT	IC	1	
C3559	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1		IC3202	TVHC244FT	IC	1	
C3560	ECEV1HN0100	E. CAPACITOR CH 50V 1U	1		IC3203	TC4W53FU	IC	1	
C3561	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1		IC3204	UPD65841G025	IC	1	
C3562	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		IC3205	TVHT244FT	IC	1	
C3563-66	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4		IC3206	TVHC244FT	IC	1	
C3567	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1		IC3207	TC7SH32FU	IC	1	
C3568	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		IC3208	MC74HC125AF	IC	1	
C3569	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC3209, 1C	TC7S66F	IC	2	
C3570	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		IC3211, 12	NJM082BV	IC	2	
C3573, 74	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		IC3213	TC7SH08FU	IC	1	
C3575	ECEV1HN0100	E. CAPACITOR CH 50V 1U	1		IC3214	TC7SH00FU	IC	1	
C3576, 77	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		IC3215, 16	TVHC244FT	IC	2	
C3578	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1		IC3217	TVHC163FT	IC	1	
C3579-82	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4		IC3301	TVHC164FT	IC	1	
C3583	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1		IC3302-04	TVHC244FT	IC	3	
C3584	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		IC3305	TC7S32F	IC	1	
C3585	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1		IC3306	TVHC244FT	IC	1	
C3586	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		IC3307	T160G70-1601	IC	1	
C3587	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC3308	XC62AP5002P	IC	1	
C3588-92	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	5		IC3309	XC62DN5002P	IC	1	
C3593	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1		IC3310-13	UPD42280G3	IC	4	
C3594-96	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		IC3314, 15	TVHC244FT	IC	2	
C3597	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1		IC3401	TVHC244FT	IC	1	
C3599	ECEV1EN3R30	E. CAPACITOR CH 25V 3.3U	1		IC3402	UPD65840G024	IC	1	
C3600-05	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	6		IC3403	TC7SH04FU	IC	1	
C3606	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		IC3404	TVHC74FT	IC	1	
C3607	ECUM1H270JCN	C. CAPACITOR CH 50V 27P	1		IC3405	TVHC244FT	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC3406	ADV7122KST50	IC	1		R3032	ERJ3RBD152	M.RESISTOR CH 1/16W 1.5K	1	
IC3407	AD589JR	IC	1		R3034	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
IC3501	NJM78L09UA	IC	1		R3035	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
IC3502	XC62AP5002P	IC	1		R3036, 37	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
IC3503	XC62DN5002P	IC	1		R3038-47	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	10	
IC3504	T74VHCT244F	IC	1		R3101-26	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	26	
IC3505	AN91A12S	IC	1		R3127-29	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	3	
IC3506	MM74HC221AM	IC	1		R3131	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
IC3507	TC74VHC221AF	IC	1		R3133	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
IC3508	TVHC04FT	IC	1		R3135	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
IC3509	NE521D	IC	1		R3143	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
IC3510	TC7SH00FU	IC	1		R3145	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
IC3511	NJM082BV	IC	1		R3146	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
IC3512	MC74HC125AF	IC	1		R3148	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
IC3513	NJM082BV	IC	1		R3149-60	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	12	
IC3514	TC74VHC221AF	IC	1		R3161, 62	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
IC3515	NJM084V	IC	1		R3163-66	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	4	
IC3516	TC7SH00FU	IC	1		R3167-69	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	3	
IC3517	NJM084V	IC	1		R3201-12	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	12	
IC3518	TC7SH00FU	IC	1		R3213-15	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	3	
IC3519	TVHC08FT	IC	1		R3218, 19	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
IC3520	TVHC04FT	IC	1		R3220-23	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	4	
IC3521	TVHC244FT	IC	1		R3224	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
IC3522	MM74HC221AM	IC	1		R3225	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
IC3523	NE521D	IC	1		R3227	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
IC3524	MC14053BF	IC	1		R3228, 29	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	2	
IC3525	NJM082BV	IC	1		R3230	ERJ3RBD123	M.RESISTOR CH 1/16W 12K	1	
IC3526	TC7SH00FU	IC	1		R3232	ERJ6RBD273	M.RESISTOR CH 1/10W 27K	1	
IC3527	UPD65650J203	IC	1		R3233	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
IC3528	NJM082BV	IC	1		R3234	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	1	
IC3529	TC4S66F	IC	1		R3235, 36	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	2	
L3001	VL00163J3R3	COIL 3.3UH	1		R3239	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
L3101-16	VLP0155	COIL	16		R3240	ERJ3RBD223	M.RESISTOR CH 1/16W 22K	1	
L3201	VL00163J3R9	COIL 3.9UH	1		R3241	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
L3202	VL00319K470	COIL 47UH	1		R3242	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
L3501	VL00163J221	COIL 220UH	1		R3245	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
L3502	VL00163J680	COIL 68UH	1		R3246	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
L3503	VL00163J221	COIL 220UH	1		R3248	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
P3902	VJS3826A040	CONNECTOR (FEMALE)	1		R3249, 50	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
P3981	VJP40640160	CONNECTOR (MALE)	1		R3251	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
Q3001	2SC3938-R	TRANSISTOR	1		R3252	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
Q3002, 03	2SA1532-B	TRANSISTOR	2		R3253-55	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	3	
Q3004	2SC3938-R	TRANSISTOR	1		R3257	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
Q3201	2SC2295-C	TRANSISTOR	1		R3258	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
Q3401	2SK374-R	TRANSISTOR	1		R3259	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
Q3402-04	2SB1218A-R	TRANSISTOR	3		R3260	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
Q3501	2SB709A-R	TRANSISTOR	1		R3261	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
Q3502, 03	2SK608-R	TRANSISTOR	2		R3262	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
Q3504	XN4601	TRANSISTOR-RESISTOR	1		R3263	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3001-03	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3		R3264	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R3004	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1		R3265-67	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	3	
R3005	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1		R3268, 69	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3006	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1		R3270	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R3007	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R3271	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3008	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		R3272, 73	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R3009	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1		R3274	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3010	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1		R3275-84	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	10	
R3011	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1		R3285	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3012, 13	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2		R3286	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3014	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		R3287	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3015	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1		R3301	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3016, 17	ERJ3RBD332	M.RESISTOR CH 1/16W 3.3K	2		R3303, 04	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3018	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R3306, 07	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3020	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		R3309	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3021	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1		R3311-33	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	23	
R3022	ERJ3RBD273	M.RESISTOR CH 1/16W 27K	1		R3334-37	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4	
R3023	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1		R3341-43	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	3	
R3024	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1		R3344, 45	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2	
R3028, 29	ERJ3RBD392	M.RESISTOR CH 1/16W 3.9K	2		R3346	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R3030	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1		R3347	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R3031	ERJ3RBD104	M.RESISTOR CH 1/16W 100K	1		R3348	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
					R3350	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
					R3401-05	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	5	
					R3406	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
					R3407	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3409	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3569	ERJ3RBD333	M. RESISTOR CH 1/16W 33K	1	
R3410	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R3570	ERJ3RBD393	M. RESISTOR CH 1/16W 39K	1	
R3413	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R3571	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R3415	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R3572	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R3417	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R3573, 74	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R3420, 21	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R3575	ERJ3RBD563	M. RESISTOR CH 1/16W 56K	1	
R3423, 24	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R3576	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
R3426	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R3577	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R3428, 29	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R3578	ERJ3RBD392	M. RESISTOR CH 1/16W 3.9K	1	
R3431	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R3579, 80	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2	
R3434	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R3581	ERJ3RBD152	M. RESISTOR CH 1/16W 1.5K	1	
R3435-40	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	6		R3582	ERJ3RBD562	M. RESISTOR CH 1/16W 5.6K	1	
R3441	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1		R3583	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R3442	ERJ3RBD471	M. RESISTOR CH 1/16W 470	1		R3584	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R3444, 45	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2		R3589	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
R3446-51	ERJ3RBD201	M. RESISTOR CH 1/16W 200	6		R3591	ERJ3RBD104	M. RESISTOR CH 1/16W 100K	1	
R3452, 53	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2		R3592	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R3454, 55	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	2		R3593-97	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	5	
R3456, 57	ERJ3RED750	M. RESISTOR CH 1/16W 75	2		R3598	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R3458	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R3599	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R3459	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1		R3601, 02	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R3460	ERJ3RED750	M. RESISTOR CH 1/16W 75	1		R3603	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R3461	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R3604	ERJ3GEYJ684	M. RESISTOR CH 1/16W 680K	1	
R3462, 63	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2		R3605	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R3464	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R3606	ERJ3RBD123	M. RESISTOR CH 1/16W 12K	1	
R3465	ERDS2TJ101	C. RESISTOR 1/4W 100	1		R3608	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R3501-03	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	3		R3609	ERJ3RBD822	M. RESISTOR CH 1/16W 8.2K	1	
R3505	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R3610	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1	
R3508	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3612, 13	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R3509	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1		R3615	ERJ3RBD123	M. RESISTOR CH 1/16W 12K	1	
R3511-14	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	4		R3616, 17	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R3515, 16	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2		R3620	ERJ3RBD123	M. RESISTOR CH 1/16W 12K	1	
R3517	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1		R3622	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3518	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1		R3623, 24	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R3519, 20	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2		R3625	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R3521	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1		R3626-28	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	3	
R3522	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1		R3630-32	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	3	
R3523	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R3634	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1	
R3524	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1		R3636	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R3525	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3637	ERJ3RBD823	M. RESISTOR CH 1/16W 82K	1	
R3526	ERJ3GEYJ684	M. RESISTOR CH 1/16W 680K	1		R3638	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R3527	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3639	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R3528	ERJ3GEYJ684	M. RESISTOR CH 1/16W 680K	1		R3641	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R3529	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R3642	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1	
R3530	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3644, 45	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R3531	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R3646	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R3532	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3647, 48	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R3533	ERJ3RBD393	M. RESISTOR CH 1/16W 39K	1		R3649	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R3534	ERJ3GEYJ184	M. RESISTOR CH 1/16W 180K	1		R3650	ERJ3RBD822	M. RESISTOR CH 1/16W 8.2K	1	
R3535	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R3651	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1	
R3536	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R3653	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R3537	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R3654	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R3538	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3655	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R3539	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R3658, 59	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R3540	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R3660	ERJ3RBD152	M. RESISTOR CH 1/16W 1.5K	1	
R3541	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R3661, 62	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	2	
R3542	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1		R3663	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R3543	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3665	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R3544	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R3666	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R3545	ERJ3RBD272	M. RESISTOR CH 1/16W 2.7K	1		R3669	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R3546	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3670	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R3547	ERJ3RBD183	M. RESISTOR CH 1/16W 18K	1		R3671	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R3548	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1		R3672	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R3549	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R3673	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R3551	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1		R3674	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1	
R3554	ERJ3RBD822	M. RESISTOR CH 1/16W 8.2K	1		R3675, 76	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R3557	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1		R3901, 02	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R3560	ERJ3RBD562	M. RESISTOR CH 1/16W 5.6K	1		R3904-08	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	5	
R3561	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1						
R3563	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1		TG3003	EYF6CU	TEST POINT	1	
R3564	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		TG3201	EYF6CU	TEST POINT	1	
R3565	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		TG3401	EYF6CU	TEST POINT	1	
R3566	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		TG3501, 02	EYF6CU	TEST POINT	2	
R3567	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1						
R3568	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1		TP3001, 02	EYF6CU	TEST POINT	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
TP3004	EYF6CU	TEST POINT	1		C3315-17	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
TP3201-03	EYF6CU	TEST POINT	3		C3319-25	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	7	
TP3501-07	EYF6CU	TEST POINT	7		C3402, 03	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
VC3201	ECV1ZW50X53T	TRIMMER	1		C3405-09	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	5	
VC3501	ECV1ZW20X53T	TRIMMER	1		C3411	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
VR3001	EVM7JGA00B23	V. RESISTOR 2K	1		C3412	VCK0151	C. CAPACITOR	1	
VR3501	EVM7JGA00B14	V. RESISTOR 10K	1		C3413-21	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	9	
VR3504	EVM7JGA00B53	V. RESISTOR 5K	1		C3501-13	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	13	
VR3507	EVM7JGA00B54	V. RESISTOR 50K	1		C3601, 02	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
VR3508	EVM7JGA00B23	V. RESISTOR 2K	1		C3603, 04	ECUX1H681JV	C. CAPACITOR CH 50V 680P	2	
X3201	VSX0789	CRYSTAL OSCILLATOR	1		C3605-07	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
X3501, 02	VSX0567A	CRYSTAL OSCILLATOR	2		C3608	ECEV1HVR330	E. CAPACITOR CH 50V 0.33U	1	
X3503	VSX0338	CRYSTAL OSCILLATOR	1		C3609	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
X3504	VSX0081	CRYSTAL OSCILLATOR	1		C3610	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
		MISCELLANEOUS			C3611	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
	XYN2+J6	SCREW	2		C3612	ECUX1H120JCV	C. CAPACITOR CH 50V 12P	1	
					C3613	ECEV0JV470Q	E. CAPACITOR CH 6.3V 47U	1	
					C3616	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
■ E5	VEP03F00A	DIGITAL CORE P.C. BOARD	1 (RTL)		C3618, 19	VCK0152	C. CAPACITOR	2	
C3002	ECEV0GV470Q	E. CAPACITOR CH 4V 47U	1		C3706, 07	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C3003, 04	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C3719	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C3005	VCK0151	C. CAPACITOR	1		C3720	VCK0151	C. CAPACITOR	1	
C3006	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C3721	VCK0152	C. CAPACITOR	1	
C3009, 10	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C3722, 23	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C3015-17	VCK0152	C. CAPACITOR	3		C3725, 26	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C3018	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C3801-05	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	5	
C3101	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C3901	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C3102	VCK0151	C. CAPACITOR	1		C3902	VCK0151	C. CAPACITOR	1	
C3103	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C3903-10	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	8	
C3104, 05	VCK0151	C. CAPACITOR	2		C3951-54	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4	
C3106, 07	VCK0152	C. CAPACITOR	2		D3601-03	MA715	D10DE	3	
C3108-12	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	5		D3604-06	M1MA152K	D10DE	3	
C3113	VCK0151	C. CAPACITOR	1		FL1	VLF1116	FILTER	1	
C3114	ECEV0JV330Q	E. CAPACITOR CH 6.3V 33U	1		FL2	VLF1118	FILTER	1	
C3115	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		FL3	VLF1117	FILTER	1	
C3116	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1		IC3001	MN67372A2	IC	1	
C3117	ECUX1H682KBV	C. CAPACITOR CH 50V 6800P	1		IC3002	MN4706F	IC	1	
C3118	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1		IC3003	XC62AP2302P	IC	1	
C3119	ECUX1H682KBV	C. CAPACITOR CH 50V 6800P	1		IC3007	TVHC244FT	IC	1	
C3120	ECEV0JV330Q	E. CAPACITOR CH 6.3V 33U	1		IC3008	TC7SH32FU	IC	1	
C3121, 22	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		IC3101	M65401FP	IC	1	
C3123	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC3102	MN673711	IC	1	
C3124	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1		IC3103-06	TVHC245FT	IC	4	
C3125	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1		IC3107	M52660FP	IC	1	
C3126	ECUX1H682KBV	C. CAPACITOR CH 50V 6800P	1		IC3108	TVHC244FT	IC	1	
C3127-31	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	5		IC3110	TC4W53FU	IC	1	
C3132	ECEV0JV330Q	E. CAPACITOR CH 6.3V 33U	1		IC3111	TVHC244FT	IC	1	
C3133	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC3112	TVHC257FT	IC	1	
C3134	ECEV1HV2R2Q	E. CAPACITOR CH 50V 2.2U	1		IC3202	XC62AP3202P	IC	1	
C3201-03	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		IC3203	TC7S66F	IC	1	
C3205	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		IC3204	MB81V4260S7	IC	1	
C3206	VCK0151	C. CAPACITOR	1		IC3205	L7A1433	IC	1	
C3207	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		IC3206	TVHC74FT	IC	1	
C3209	VCK0152	C. CAPACITOR	1		IC3207, 08	TC7SH08FU	IC	2	
C3210	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		IC3301	XC62DN5002P	IC	1	
C3211	ECEV1CV100Q	E. CAPACITOR CH 16V 10U	1		IC3302	MC10H125M	IC	1	
C3301	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		IC3304	L7A1434	IC	1	
C3302	ECEV1CV220Q	E. CAPACITOR CH 16V 22U	1		IC3305, 06	TVHC74FT	IC	2	
C3303	ECEV1CV470Q	E. CAPACITOR CH 16V 47U	1		IC3308	TVHC153FT	IC	1	
C3304	ECUM1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		IC3310	MC10H124M	IC	1	
C3305, 06	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2		IC3311	TVHC244FT	IC	1	
C3307	VCK0152	C. CAPACITOR	1		IC3315, 16	TC7SH04FU	IC	2	
C3308	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC3317	TC7SH08FU	IC	1	
C3309, 10	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	2		IC3401	UPD65868D022	IC	1	
C3311-13	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3		IC3403	TVHC245FT	IC	1	
					IC3404	TVHC244FT	IC	1	
					IC3405	TC7SH32FU	IC	1	
					IC3415	TVHC257FT	IC	1	
					IC3416	TC7SH04FU	IC	1	
					IC3417	TC7S66F	IC	1	
					IC3419	TC7SH04FU	IC	1	
					IC3420	TC7SH00FU	IC	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
IC3421, 22	TC4W53FU	IC	2		R3301	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1	
IC3501, 02	SN74S1051NS	IC	2		R3302	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
IC3503	TVHT541FT	IC	1		R3304-08	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	5	
IC3504	HD151015	IC	1		R3316	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
IC3505	TVHT541FT	IC	1		R3320	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
IC3507, 08	UPD71055GB	IC	2		R3321, 22	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
IC3509	TVHC244FT	IC	1		R3323	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
IC3510	TVHC08FT	IC	1		R3324, 25	ERJ3GEYJ560	M. RESISTOR CH 1/16W 56	2	
IC3511	TVHC138FT	IC	1		R3326-29	ERJ6GEYG471	M. RESISTOR CH 1/10W 470	4	
IC3512	TC7SH04FU	IC	1		R3332	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
IC3513	TC7SH08FU	IC	1		R3334, 35	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
IC3601, 02	TC7S66F	IC	2		R3336	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
IC3603	VSI2891	IC	1		R3339	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
IC3605	S80727ANDQ	IC	1		R3340, 41	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	2	
IC3606	TC7SH08FU	IC	1		R3401, 02	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
IC3704, 05	TVHC244FT	IC	2		R3403	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
IC3713, 14	TVHC244FT	IC	2		R3414, 15	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
IC3718, 19	TC7SH32FU	IC	2		R3416, 17	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
IC3801	UPD65843G026	IC	1		R3418	ERJ3GEY0102	M. RESISTOR CH 1/16W 1K	1	
IC3802	TVHC74FT	IC	1		R3419, 20	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
IC3901	TVHC74FT	IC	1		R3421	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
IC3902	TVHC244FT	IC	1		R3422	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
IC3905, 06	TVHC244FT	IC	2		R3423-25	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3	
IC3907	TC4W53FU	IC	1		R3505, 06	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
IC3908	TC7SH08FU	IC	1		R3507, 08	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
IC3951-54	TVHC244FT	IC	4		R3509-16	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	8	
L3001	VLP0145	COIL	1		R3517-19	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3	
L3101	VLP0145	COIL	1		R3520	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
L3102-04	VL00319K100	COIL 10UH	3		R3521	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
L3401	VLP0145	COIL	1		R3523-38	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	16	
L3601	VL00319K470	COIL 47UH	1		R3539-41	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3	
L3602, 03	VL00464K6R8	COIL 6.8UH	2		R3542	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
L3604	VLP0155	COIL	1		R3601-03	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	3	
L3701	VLP0145	COIL	1		R3610, 11	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	2	
L3702	VL00464K6R8	COIL 6.8UH	1		R3614	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
L3703-18	VLP0155	COIL	16		R3615, 16	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2	
L3901	VLP0145	COIL	1		R3617, 18	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
P3981	VJP40640160	CONNECTOR (MALE)	1		R3620, 21	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
P3982	VJS3826A040	CONNECTOR (FEMALE)	1		R3623, 24	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	2	
Q3601	2SB709A-R	TRANSISTOR	1		R3625	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
QR3601	UN2214	TRANSISTOR-RESISTOR	1		R3626, 27	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R3001	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R3629	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3024	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3630-32	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	3	
R3070	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3633	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R3071-78	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	8		R3634	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R3107-15	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	9		R3635	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3118, 19	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R3636	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R3120, 21	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2		R3637	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1	
R3122, 23	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R3638	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R3124, 25	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2		R3639	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R3126-34	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	9		R3640-42	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	3	
R3135-45	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	11		R3643	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R3147	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R3644-46	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	3	
R3148	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1		R3648	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3153	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R3649	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R3154	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1		R3651	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R3155	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3652	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R3156	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R3653	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R3157	ERJ3GEYJ393	M. RESISTOR CH 1/16W 39K	1		R3656	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R3159	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R3657	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R3160	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1		R3658-60	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	3	
R3161	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R3662	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R3165-75	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	11		R3672	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R3176	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R3674, 75	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R3177	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3677	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R3179-82	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	4		R3701-16	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	16	
R3183-96	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	14		R3722-38	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	17	
R3203	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R3739-54	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	16	
R3207	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R3755-70	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	16	
R3208	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R3772	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
					R3773	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
					R3802	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
					R3805	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
					R3806	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
					R3812-17	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	6	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3901-06	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	6		C30233-36	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	4	
R3907	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		C30237	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
R3909-15	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	7		C30238	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
R3919-21	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	3		C30239	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
R3923	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		C30240	ECEV1AV3300	E. CAPACITOR CH 10V 33U	1	
R3925	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1		C30241	ECEV1HV4R70	E. CAPACITOR CH 50V 4.7U	1	
R3926	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1		C30242	ECU1C392JB	P. CAPACITOR 16V 3900P	1	
R3927	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		C30243	ECUX1H821JCV	C. CAPACITOR CH 50V 820P	1	
R3951-53	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	3		C30244	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
R3956-61	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	6		C30245	ECUX1H222KBV	C. CAPACITOR CH 50V 2200P	1	
R3962, 63	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		C30246	ECU1H152JB	P. CAPACITOR 50V 1500P	1	
R3964	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1		C30247	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1	
R3965-67	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	3		C30248	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
R3981, 82	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	2		C30249	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1	
R3984-88	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	5		C30250	ECUM1C334KBM	C. CAPACITOR CH 16V 0.33U	1	
SW3101	VSS0367-04B	SWITCH	1		C30251	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1	
SW3102	VSS0367-08B	SWITCH	1		C30252	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1	
TG3001	EYF6CU	TEST POINT	1		C30253	ECU1C683JB5	P. CAPACITOR 16V 0.068U	1	
TG3302	EYF6CU	TEST POINT	1		C30254	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1	
TP3002-04	EYF6CU	TEST POINT	3		C30255	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
TP3103, 04	EYF6CU	TEST POINT	2		C30256	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
TP3201, 02	EYF6CU	TEST POINT	2		C30257, 58	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
TP3301	EYF6CU	TEST POINT	1		C30259	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
TP3304-07	EYF6CU	TEST POINT	4		C30260, 61	ECUX1H080DCV	C. CAPACITOR CH 50V 8P	2	
TP3601-04	EYF6CU	TEST POINT	4		C30262	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
TP3801, 02	EYF6CU	TEST POINT	2		C30263	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
TP3901	EYF6CU	TEST POINT	1		C30264	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
TP3951	EYF6CU	TEST POINT	1		C30265	ECUX1H080DCV	C. CAPACITOR CH 50V 8P	1	
VR3101-03	VRV0161B203	V.RESISTOR 20K	3		C30266	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
X3301	VSX0645	CRYSTAL OSCILLATOR	1		C30267	ECUX1H080DCV	C. CAPACITOR CH 50V 8P	1	
X3601	VSX0637	CRYSTAL OSCILLATOR	1		C30268	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
		MISCELLANEOUS			C30269	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
					C30270	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
	XYN2+J6	SCREW	2		C30301	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
					C30303	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
					C30304	ECUX1H181JCV	C. CAPACITOR CH 50V 180P	1	
					C30305, 06	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
					C30307	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
					C30308, 09	ECST1CX106Z	T. CAPACITOR CH 16V 10U	2	
					C30310, 11	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
					C30312	ECUX1H080DCV	C. CAPACITOR CH 50V 8P	1	
					C30314	ECEV0JN4700	E. CAPACITOR CH6.3V 47U	1	
					C30318	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
					C30323	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
					C30324	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
					C30325	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
					C30327	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
					C30330, 31	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
					C30339	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
					C30340	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
					C30341	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
					C30343	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
					C30344	ECUX1H050CCV	C. CAPACITOR CH 50V 5P	1	
					C30345, 46	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
					C30401	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
					C30403	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
					C30405-07	ECEV1AV3300	E. CAPACITOR CH 10V 33U	3	
					C30409-11	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	3	
					C30413-17	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	5	
					C30420, 21	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
					C30422, 23	ECUX1H080DCV	C. CAPACITOR CH 50V 8P	2	
					C30424	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
					C30425, 26	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	2	
					C30427, 28	ECEV1CV1000	E. CAPACITOR CH 16V 10U	2	
					C30501-03	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	3	
					C30504-07	ECST1CX106Z	T. CAPACITOR CH 16V 10U	4	
					C30509	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
					C30511	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
					C30512	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
					C30519-21	ECST1CX106Z	T. CAPACITOR CH 16V 10U	3	
					C30522	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
					C30523	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1	
					C30524-26	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	3	
					C30527-29	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
					C30530-32	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	3	
C30201	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1						
C30202	ECEV0JN4700	E. CAPACITOR CH6.3V 47U	1						
C30203	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1						
C30204	ECEV1AV3300	E. CAPACITOR CH 10V 33U	1						
C30205	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1						
C30206	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1						
C30207	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1						
C30208	ECEV1AV3300	E. CAPACITOR CH 10V 33U	1						
C30209	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1						
C30210	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1						
C30211	ECEV1AV3300	E. CAPACITOR CH 10V 33U	1						
C30212	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1						
C30213	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1						
C30214	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1						
C30215	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1						
C30217	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1						
C30218	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1						
C30219	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1						
C30220	ECUM1C474KBM	C. CAPACITOR CH 16V 0.47U	1						
C30221, 22	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2						
C30223	ECUX1H020CCV	C. CAPACITOR CH 50V 2P	1						
C30224-26	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	3						
C30227	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1						
C30228	ECUX1A105KBN	C. CAPACITOR CH 10V 1U	1						
C30229	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1						
C30230, 31	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2						
C30232	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1						

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C30533-35	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	3		C30905, 06	ECST1CX106Z	T. CAPACITOR CH 16V 10U	2	
C30536-41	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	6		C30907-09	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C30542-44	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	3		C30910	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1	
C30545-50	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	6		C30911, 12	ECEV1CV1000	E. CAPACITOR CH 16V 10U	2	
C30551	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1		C30913, 14	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C30552-54	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	3		C30915, 16	ECEV0JN1000	E. CAPACITOR CH6.3V 10U	2	
C30601	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		C30917	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C30602	ECEV1H47R70	E. CAPACITOR CH 50V 4.7U	1		C30918, 19	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	2	
C30603, 04	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		C30922, 23	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C30605	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		C30926, 27	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	2	
C30606, 07	ECST1CX106Z	T. CAPACITOR CH 16V 10U	2		C30928, 29	ECEV1CV1000	E. CAPACITOR CH 16V 10U	2	
C30608	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C30930, 31	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	2	
C30609, 10	ECST1CX106Z	T. CAPACITOR CH 16V 10U	2		C30932, 33	ECST1CX106Z	T. CAPACITOR CH 16V 10U	2	
C30611-13	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3		C30934-38	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C30614	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1		C30939	ECST1CY105Z	T. CAPACITOR CH 16V 1U	1	
C30615	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C30940	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1	
C30616	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C30941, 42	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C30617, 18	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		C30943, 44	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	2	
C30619	ECEV1AV3300	E. CAPACITOR CH 10V 33U	1		C30945, 46	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C30620	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C30948	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C30621	ECUX1H222KBV	C. CAPACITOR CH 50V 2200P	1		C30949	ECUX1H271JCV	C. CAPACITOR CH 50V 270P	1	
C30622	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C30950	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C30623	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1		C30952	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1	
C30624	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1		C30953	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C30625	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C30954	ECUX1H100DCV	C. CAPACITOR CH 50V 10P	1	
C30626	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C30957-59	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C30627	ECUX1H222KBV	C. CAPACITOR CH 50V 2200P	1		C30960	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C30628	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C30961	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C30629	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C30962	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C30630	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1		C30963	ECUX1H050CCV	C. CAPACITOR CH 50V 5P	1	
C30631	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1		C30964	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1	
C30632	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C30965	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C30633, 34	ECST1CX106Z	T. CAPACITOR CH 16V 10U	2		C31001	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C30635, 36	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	2		C31002	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C30637	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C31003	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C30638	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1		C31004-08	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	5	
C30639	ECUM1C474KBN	C. CAPACITOR CH 16V 0.47U	1		C31009	ECUX1H391JCV	C. CAPACITOR CH 50V 390P	1	
C30640	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C31010	ECEV0JV4700	E. CAPACITOR CH6.3V 47U	1	
C30641	ECEV1AV3300	E. CAPACITOR CH 10V 33U	1		C31011	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C30642	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C31012	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C30646	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		C31013	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C30701-04	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	4		C31014	ECEV0JV4700	E. CAPACITOR CH6.3V 47U	1	
C30801	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C31015	ECUX1H100DCV	C. CAPACITOR CH 50V 10P	1	
C30803, 04	ECST1CX106Z	T. CAPACITOR CH 16V 10U	2		C31016, 17	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C30805-10	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	6		C31018	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C30811	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1		C31019-21	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C30812	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1		C31022	ECUX1H271JCV	C. CAPACITOR CH 50V 270P	1	
C30813	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		C31023	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
C30815	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		C31024	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C30816, 17	ECUM1C474KBN	C. CAPACITOR CH 16V 0.47U	2		C31025	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1	
C30818	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1		C31026	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
C30819	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		C31027-30	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	4	
C30820	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1		C31031	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
C30821	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		C31032	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C30822-24	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	3		C31035	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C30825	ECUX1H020CCV	C. CAPACITOR CH 50V 2P	1		C31037	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C30826	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1		C31041	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C30827	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1		C31044, 45	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	2	
C30828	ECUX1H020CCV	C. CAPACITOR CH 50V 2P	1		C31046	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C30829-32	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	4		C31101, 02	ECST1CX106Z	T. CAPACITOR CH 16V 10U	2	
C30833	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1		C31103	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C30834	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	1		C31104	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C30835	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1		C31105	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C30836	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1		C31106	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C30837	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1		C31107	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1	
C30838	ECUX1H560JCV	C. CAPACITOR CH 50V 56P	1		C31108	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1	
C30839-41	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	3		C31109, 10	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C30842	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1		C31111	ECST1CX106Z	T. CAPACITOR CH 16V 10U	1	
C30843	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		C31112, 13	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	2	
C30844, 45	ECST1CX106Z	T. CAPACITOR CH 16V 10U	2		C31114	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C30846, 47	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2		C31117, 18	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	
C30848	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1		C31119	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C30849	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		C31120	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	1	
C30851	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	1		C31121-23	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	3	
C30901-04	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	4		C31201, 02	ECUX1E104ZFN	C. CAPACITOR CH 25V 0.1U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C31203-05	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	3		IC31003	NJM082BV	IC	1	
C31206,07	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	2		IC31004	MM74HC221AM	IC	1	
C31208	ECST1CX106Z	T.CAPACITOR CH 16V 10U	1		IC31005	TC7S32FU	IC	1	
C31209-11	ECUX1E104ZFV	C.CAPACITOR CH 25V 0.1U	3		IC31101	MC14053BF	IC	1	
D30201	MA142K	DIODE	1		IC31102	AD826AR	IC	1	
D30301	MA142WK	DIODE	1		IC31103	TC7SH08FU	IC	1	
D30601	MA142K	DIODE	1		IC31104	TC7S14F	IC	1	
D30801	MA142K	DIODE	1		IC31105	UPD6456T611Y	IC	1	
D30902	MA142K	DIODE	1		IC31106	NJM2534V	IC	1	
D31001	MA142WK	DIODE	1		IC31201,02	TVHT244FT	IC	2	
D31002,03	MA335-R	DIODE	2		IC31203	XC62AP3002P	IC	1	
FL30101,02	VLFO941C223	FILTER	2		IC31204	M62370GP	IC	1	
FL30201	VLF0105	FILTER	1		L30201-04	VL00319K101	COIL	100UH	4
FL30301	VLF1353	FILTER	1		L30206,07	VL00319K101	COIL	100UH	2
FL30401,02	VLF1355	FILTER	2		L30208	VL00163J180	COIL	18UH	1
FL30601,02	VLFO941C223	FILTER	2		L30209	VL00163J220	COIL	22UH	1
FL30801	VLF1354	FILTER	1		L30210	VL00163J180	COIL	18UH	1
FL30901,02	VLF1355	FILTER	2		L30211	VL00163J220	COIL	22UH	1
IC30201,02	XC62AP5002P	IC	2		L30301,02	VL00319K101	COIL	100UH	2
IC30203	XC62DN5002P	IC	1		L30303	VL00133J471	COIL	470UH	1
IC30204	CXD0204AQ	IC	1		L30401-04	VL00319K101	COIL	100UH	4
IC30205	MM74HC221AM	IC	1		L30504-06	VL00319K101	COIL	100UH	3
IC30206	LT1228CS8	IC	1		L30601-03	VL00319K101	COIL	100UH	3
IC30207	AN3296S	IC	1		L30604	VL00163J470	COIL	47UH	1
IC30208	TC4W53FU	IC	1		L30605,06	VL00319K101	COIL	100UH	2
IC30209	TC7SH08FU	IC	1		L30801,02	VL00319K101	COIL	100UH	2
IC30302	AN91A12S	IC	1		L30804	VL00163J470	COIL	47UH	1
IC30304	TC4W53FU	IC	1		L30901,02	VL00319K101	COIL	100UH	2
IC30305	NJM78L09UA	IC	1		L30903	VL00163J470	COIL	47UH	1
IC30307	TC4W53FU	IC	1		L30904	VL00163J270	COIL	27UH	1
IC30401	NJM78L09UA	IC	1		L30905	VL00163J6R8	COIL	6.8UH	1
IC30404,05	NJM1496V	IC	2		L30906,07	VL00163J5R6	COIL	5.6UH	2
IC30501	TC7SH08FU	IC	1		L31001,02	VL00319K101	COIL	100UH	2
IC30502	XC62DN5002P	IC	1		L31003	VL00163J181	COIL	180UH	1
IC30503	AD826AR	IC	1		L31004	VL00163J560	COIL	56UH	1
IC30504	XC62AP5002P	IC	1		L31005-07	VL00163J470	COIL	47UH	3
IC30505	AD817AR	IC	1		L31101,02	VL00163J470	COIL	47UH	2
IC30506	XC62AP5002P	IC	1		L31103	VL00163J270	COIL	27UH	1
IC30507-09	CXD1176Q	IC	3		L31104	VL00163J680	COIL	68UH	1
IC30510-12	TVHC541FT	IC	3		P30101	VJP40640160	CONNECTOR (MALE)		1
IC30601	TC7W04FU	IC	1		Q30201	XN4601	TRANSISTOR-RESISTOR		1
IC30602	MM74HC221AM	IC	1		Q30202	2SB1218A-R	TRANSISTOR		1
IC30604	TC7W74FU	IC	1		Q30203	2SA1532-B	TRANSISTOR		1
IC30605	DM74LS221SJ	IC	1		Q30204	2SD1819A-R	TRANSISTOR		1
IC30606	XC62AP5002P	IC	1		Q30205	XN4501	TRANSISTOR-RESISTOR		1
IC30607	NJM3119V	IC	1		Q30206,07	2SD1819A-R	TRANSISTOR		2
IC30608	TC7W04FU	IC	1		Q30208,09	2SB1218A-R	TRANSISTOR		2
IC30609	NJM082BV	IC	1		Q30303	2SB1218A-R	TRANSISTOR		1
IC30610	NJM064V	IC	1		Q30304	2SD1819A-R	TRANSISTOR		1
IC30611	MC14053BF	IC	1		Q30305,06	2SB1218A-R	TRANSISTOR		2
IC30612	UPD65013BC16	IC	1		Q30307	2SA1532-B	TRANSISTOR		1
IC30701	MM53015VZW	IC	1		Q30308,09	2SD1819A-R	TRANSISTOR		2
IC30702,03	TC7SH08FU	IC	2		Q30401,02	2SD1819A-R	TRANSISTOR		2
IC30801	MC14053BF	IC	1		Q30403,04	2SA1532-B	TRANSISTOR		2
IC30802	TC7S32FU	IC	1		Q30405,06	2SD1819A-R	TRANSISTOR		2
IC30803	TC4W53FU	IC	1		Q30501	2SD1819A-R	TRANSISTOR		1
IC30804,05	LT1228CS8	IC	2		Q30601,02	2SD1819A-R	TRANSISTOR		2
IC30806	NJM2534V	IC	1		Q30801	2SD1819A-R	TRANSISTOR		1
IC30807	XC62AP5002P	IC	1		Q30802	XN4601	TRANSISTOR-RESISTOR		1
IC30808	NJM082BV	IC	1		Q30803	2SA1532-B	TRANSISTOR		1
IC30809	XC62DN5002P	IC	1		Q30804,05	2SD1819A-R	TRANSISTOR		2
IC30810	NJM78L09UA	IC	1		Q30806	2SA1532-B	TRANSISTOR		1
IC30811	TC7W04FU	IC	1		Q30807	2SC3930-B	TRANSISTOR		1
IC30812	TC7SH08FU	IC	1		Q30808	2SB1218A-R	TRANSISTOR		1
IC30813	TC4W53FU	IC	1		Q30809	2SA1532-B	TRANSISTOR		1
IC30901	BA7655AF	IC	1		Q30810	2SB1218A-R	TRANSISTOR		1
IC30902	AD826AR	IC	1		Q30811	2SA1532-B	TRANSISTOR		1
IC30903	XC62AP5002P	IC	1		Q30812	2SD1819A-R	TRANSISTOR		1
IC30904	NJM082BV	IC	1		Q30813,14	2SA1532-B	TRANSISTOR		2
IC30905	M51272FP	IC	1		Q30815,16	2SD1819A-R	TRANSISTOR		2
IC31001	TC7SH08FU	IC	1		Q30901-04	2SD1819A-R	TRANSISTOR		4
IC31002	MC14053BF	IC	1		Q30905,06	2SA1532-B	TRANSISTOR		2

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q30907, 08	2SD1819A-R	TRANSISTOR	2		R30268	ERJ3GEYJ684	M. RESISTOR CH 1/16W 680K	1	
Q30909	2SB1218A-R	TRANSISTOR	1		R30269	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1	
Q30911	2SC3930-B	TRANSISTOR	1		R30270	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
Q30912	2SB1218A-R	TRANSISTOR	1		R30271	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
Q30914	2SC3930-B	TRANSISTOR	1		R30274	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
Q31001	2SC3930-B	TRANSISTOR	1		R30275	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
Q31002	2SD1819A-R	TRANSISTOR	1		R30276, 77	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2	
Q31003	2SB1218A-R	TRANSISTOR	1		R30278	ERJ3GEY102	M. RESISTOR CH 1/16W 1K	1	
Q31004	2SC3930-B	TRANSISTOR	1		R30279	ERJ3GEYJ823	M. RESISTOR CH 1/16W 82K	1	
Q31005, 06	2SB1218A-R	TRANSISTOR	2		R30280	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1	
Q31007	2SC3930-B	TRANSISTOR	1		R30281	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
Q31008, 09	2SB1218A-R	TRANSISTOR	2		R30282	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
Q31012	2SD1819A-R	TRANSISTOR	1		R30283	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
Q31015	2SD1819A-R	TRANSISTOR	1		R30284	ERJ3GEY682	M. RESISTOR CH 1/16W 6.8K	1	
Q31101	4N4601	TRANSISTOR-RESISTOR	1		R30285	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
Q31102	2SB1218A-R	TRANSISTOR	1		R30286, 87	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
Q31103, 04	2SA1532-B	TRANSISTOR	2		R30288	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
Q31105	2SB1218A-R	TRANSISTOR	1		R30289	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
Q31106	2SD1819A-R	TRANSISTOR	1		R30302	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
QR30501-03	UN5213	TRANSISTOR-RESISTOR	3		R30303	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R30201	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30305	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R30202	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R30308	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1	
R30203	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1		R30309	ERJ3GEY152	M. RESISTOR CH 1/16W 1.5K	1	
R30204	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1		R30310	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1	
R30205	ERJ3RBD471	M. RESISTOR CH 1/16W 4.7K	1		R30312	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R30206, 07	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2		R30313	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30209	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R30317	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R30213	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R30323	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1	
R30214	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R30324	ERJ3GEYJ684	M. RESISTOR CH 1/16W 680K	1	
R30215	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R30325-27	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	3	
R30216	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R30330	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R30217	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R30331	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30219	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R30334	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R30220	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R30338	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R30222	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1		R30339	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30223	ERJ3RBD471	M. RESISTOR CH 1/16W 470	1		R30340	ERJ3RBD562	M. RESISTOR CH 1/16W 5.6K	1	
R30224	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R30341	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1	
R30225	ERJ3RBD221	M. RESISTOR CH 1/16W 220	1		R30342	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1	
R30226	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R30343	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30227	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1		R30344	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R30228, 29	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2		R30345, 46	ERJ3GEY152	M. RESISTOR CH 1/16W 1.5K	2	
R30231, 32	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2		R30347	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R30233	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R30348	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R30234	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R30349, 50	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R30235	ERJ3GEY682	M. RESISTOR CH 1/16W 6.8K	1		R30351	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R30236	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1		R30352	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30237, 38	ERJ3GEY6332	M. RESISTOR CH 1/16W 3.3K	2		R30353	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R30239	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R30354	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30240	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30401, 02	ERJ3RBD101	M. RESISTOR CH 1/16W 100	2	
R30241	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1		R30403, 04	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2	
R30242	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R30405	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R30243	ERJ3RBD122	M. RESISTOR CH 1/16W 1.2K	1		R30406	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30244	ERJ3GEYJ750	M. RESISTOR CH 1/16W 75	1		R30407	ERJ3RBD821	M. RESISTOR CH 1/16W 820	1	
R30247	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R30408	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30248	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1		R30409, 10	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	2	
R30249	ERJ3GEYJ564	M. RESISTOR CH 1/16W 560K	1		R30411, 12	ERJ3RBD272	M. RESISTOR CH 1/16W 2.7K	2	
R30250	ERJ3GEY6332	M. RESISTOR CH 1/16W 3.3K	1		R30413-16	ERJ3RBD101	M. RESISTOR CH 1/16W 100	4	
R30251	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R30417	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R30252	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R30418	ERJ3RBD272	M. RESISTOR CH 1/16W 2.7K	1	
R30253	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1		R30419	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R30254	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1		R30420	ERJ3RBD272	M. RESISTOR CH 1/16W 2.7K	1	
R30255	ERJ3RBD201	M. RESISTOR CH 1/16W 200	1		R30421, 22	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	2	
R30256	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30423-26	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	4	
R30257, 58	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	2		R30427, 28	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R30259	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R30429-32	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	4	
R30260	ERJ3GEY682	M. RESISTOR CH 1/16W 6.8K	1		R30433, 34	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R30261	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		R30435, 36	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R30262	ERJ3GEY682	M. RESISTOR CH 1/16W 6.8K	1		R30437, 38	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2	
R30263	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1		R30439, 40	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	2	
R30264	ERJ3RBD201	M. RESISTOR CH 1/16W 200	1		R30501	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R30265	ERJ3GEYJ753	M. RESISTOR CH 1/16W 75K	1		R30503	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1	
R30266	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R30504-06	ERJ3GEY102	M. RESISTOR CH 1/16W 1K	3	
R30267	ERJ3RBD471	M. RESISTOR CH 1/16W 470	1		R30509, 10	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
					R30511	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1	
					R30512, 13	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R30514	ERJ3RBD122	M. RESISTOR CH 1/16W 1.2K	1		R30805	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R30515-20	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	6		R30806	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30525	ERJ3RBD122	M. RESISTOR CH 1/16W 1.2K	1		R30807, 08	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	2	
R30527	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R30809	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R30529	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R30810	ERJ3GEYJ823	M. RESISTOR CH 1/16W 82K	1	
R30530, 31	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2		R30811, 12	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	2	
R30532	ERJ3GEYJ183	M. RESISTOR CH 1/16W 18K	1		R30813	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30533, 34	ERJ3GEYJ750	M. RESISTOR CH 1/16W 75	2		R30814	ERJ3RBD821	M. RESISTOR CH 1/16W 820	1	
R30535	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1		R30815	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1	
R30536	ERJ3GEYJ750	M. RESISTOR CH 1/16W 75	1		R30816, 17	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	2	
R30537, 38	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	2		R30818	ERJ3RBD221	M. RESISTOR CH 1/16W 220	1	
R30539	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1		R30819	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30542	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1		R30820	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R30545	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1		R30821	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1	
R30548	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R30822	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R30555-57	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3		R30823, 24	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R30558-81	ERJ3RBD101	M. RESISTOR CH 1/16W 100	24		R30825	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R30603	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30827	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R30604	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1		R30828-30	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	3	
R30605	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R30831	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R30606	ERJ3GEYG682	M. RESISTOR CH 1/16W 6.8K	1		R30832	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R30607	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R30833	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R30608	ERJ3RBD272	M. RESISTOR CH 1/16W 2.7K	1		R30834	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30609	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R30835	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R30610	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R30836	ERJ3RBD221	M. RESISTOR CH 1/16W 220	1	
R30611	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1		R30837	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R30612	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30838	ERJ3RBD221	M. RESISTOR CH 1/16W 220	1	
R30613	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R30839	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30614, 15	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2		R30840	ERJ3GEYJ823	M. RESISTOR CH 1/16W 82K	1	
R30616	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1		R30841	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R30617, 18	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R30842	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1	
R30620	ERJ3RBD183	M. RESISTOR CH 1/16W 18K	1		R30844	ERJ3GEYJ823	M. RESISTOR CH 1/16W 82K	1	
R30622	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1		R30845	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R30623	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R30846	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1	
R30624	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1		R30847	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R30625	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R30848	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1	
R30626	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1		R30849	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
R30627	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1		R30850	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R30628	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R30851	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R30629	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30852	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30630	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1		R30853	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1	
R30631	ERJ3RBD562	M. RESISTOR CH 1/16W 5.6K	1		R30854	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R30633, 34	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2		R30855	ERJ3RBD221	M. RESISTOR CH 1/16W 220	1	
R30635	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1		R30856	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30637	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1		R30857	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30638	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1		R30859	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R30639	ERJ3RBD562	M. RESISTOR CH 1/16W 5.6K	1		R30861	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
R30640	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30862	ERJ3RBD221	M. RESISTOR CH 1/16W 220	1	
R30643-45	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3		R30863	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30649	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R30864, 65	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	2	
R30650	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R30866	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R30651	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R30867	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R30652	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30868	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R30653	ERJ3GEYJ334	M. RESISTOR CH 1/16W 330K	1		R30869	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30654	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30870	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
R30656	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R30871	ERJ3RBD221	M. RESISTOR CH 1/16W 220	1	
R30658	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30872	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30661	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30873	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30662	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R30874	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1	
R30664	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R30875	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1	
R30666	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30876	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R30667	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1		R30877	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R30668-70	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	3		R30878	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30671	ERJ3RBD471	M. RESISTOR CH 1/16W 470	1		R30879	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30672	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30880	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R30673	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R30881	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R30674	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R30882	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
R30701-04	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	4		R30883	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R30705-07	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3		R30884	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30708	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R30901, 02	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2	
R30709, 10	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R30903, 04	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	2	
R30801	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R30905	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30802	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R30906	ERJ3RBD183	M. RESISTOR CH 1/16W 18K	1	
R30803	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		R30907	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1	
R30804	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R30908	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R30909	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R31029	ERJ3RBD221	M. RESISTOR CH 1/16W 220	1	
R30910	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R31030	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R30911-13	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	3		R31031	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R30914, 15	ERJ3GEYJ6332	M. RESISTOR CH 1/16W 3.3K	2		R31032	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30916	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R31033	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R30917, 18	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2		R31034	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30919, 20	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	2		R31035	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	1	
R30921, 22	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	2		R31036, 37	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2	
R30923	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R31038	ERJ3RBD122	M. RESISTOR CH 1/16W 1.2K	1	
R30924	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R31039	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R30925	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R31040	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R30926	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R31041	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1	
R30927, 28	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2		R31042	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R30929, 30	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R31043, 44	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	2	
R30931, 32	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2		R31045, 46	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2	
R30933	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R31047	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R30934	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1		R31048	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R30935	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R31049	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R30936	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R31050	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R30937	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R31051	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1	
R30938	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R31052	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1	
R30940	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R31053	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30941, 42	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2		R31054	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1	
R30943	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1		R31055	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30944	ERJ3RBD821	M. RESISTOR CH 1/16W 820	1		R31061	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30945	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R31065	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R30946	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R31067	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30949	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R31071	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30950	ERJ3RBD471	M. RESISTOR CH 1/16W 470	1		R31074	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R30951	ERJ3GEYJ271	M. RESISTOR CH 1/16W 270	1		R31101	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R30953	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1		R31102	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1	
R30954	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R31103, 04	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R30955	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R31105	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1	
R30956	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1		R31106, 07	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	2	
R30957	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1		R31108	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R30959	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1		R31109	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R30960	VRE006607103	M. RESISTOR CH 1/10W 10K	1		R31110	ERJ3RBD561	M. RESISTOR CH 1/16W 560	1	
R30962	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1		R31111	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R30963	ERJ3GEYJ6332	M. RESISTOR CH 1/16W 3.3K	1		R31112	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1	
R30965, 66	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	2		R31113	ERJ3GEYJ271	M. RESISTOR CH 1/16W 270	1	
R30968	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R31114	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R30969	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1		R31115	VRE006622102	M. RESISTOR CH 1/10W 1K	1	
R30970	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1		R31116	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30972	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1		R31117	ERJ3RBD561	M. RESISTOR CH 1/16W 560	1	
R30973	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1		R31118, 19	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2	
R30976	ERJ3RBD301	M. RESISTOR CH 1/16W 300	1		R31120	ERJ3RBD471	M. RESISTOR CH 1/16W 470	1	
R30981	ERJ3RBD301	M. RESISTOR CH 1/16W 300	1		R31122	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R30983	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R31123	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1	
R30985	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	1		R31124	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1	
R30988, 89	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	2		R31125	ERJ3RBD471	M. RESISTOR CH 1/16W 470	1	
R30990	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R31126	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R30991	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R31127, 28	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R30994	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1		R31129	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R30996, 97	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	2		R31130	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
R30998	ERJ3RBD183	M. RESISTOR CH 1/16W 18K	1		R31131	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R30999	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1		R31132	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R31001-04	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	4		R31133	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R31005	ERJ3GEYJ333	M. RESISTOR CH 1/16W 33K	1		R31134	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	1	
R31006-09	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	4		R31136	ERJ3GEYJ0R00	M. RESISTOR CH 1/16W 0	1	
R31010	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R31137	ERJ3GEYJ822	M. RESISTOR CH 1/16W 8.2K	1	
R31011	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R31138	ERJ3GEYJ220	M. RESISTOR CH 1/16W 22	1	
R31012	ERJ3RBD912	M. RESISTOR CH 1/16W 9.1K	1		R31139	ERJ3GEYJ123	M. RESISTOR CH 1/16W 12K	1	
R31013	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R31140	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R31014	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R31141, 42	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2	
R31017	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R31201-03	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	3	
R31018	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1		R31204-08	ERJ3RBD101	M. RESISTOR CH 1/16W 100	5	
R31019	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R31210-14	ERJ3RBD101	M. RESISTOR CH 1/16W 100	5	
R31020	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R31216-25	ERJ3RBD101	M. RESISTOR CH 1/16W 100	10	
R31021	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	1		R31226	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R31022	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1		R31227	ERDS2TJ101	C. RESISTOR 1/4W 100	1	
R31023, 24	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	2		TH31001	ERTD2FHL102S	THERMISTOR 1K	1	
R31025	ERJ3RBD122	M. RESISTOR CH 1/16W 1.2K	1		TP30201	EYF6CU	TEST POINT	1	
R31026	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1		TP30401	EYF6CU	TEST POINT	1	
R31027	ERJ3RBD821	M. RESISTOR CH 1/16W 820	1						
R31028	ERJ3GEYJ154	M. RESISTOR CH 1/16W 150K	1						

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
TP30501-03	EYF6CU	TEST POINT	3		C40117	ECEV1CV2200	E. CAPACITOR CH 16V 22U	1	
TP30601-03	EYF6CU	TEST POINT	7		C40118	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
TP30701	EYF6CU	TEST POINT	1		C40119	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
TP30801, 02	EYF6CU	TEST POINT	2		C40120	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1	
TP30901	EYF6CU	TEST POINT	1		C40121	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
TP31001	EYF6CU	TEST POINT	1		C40122, 23	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	2	
TP31101	EYF6CU	TEST POINT	1		C40124, 25	ECEV1CV1000	E. CAPACITOR CH 16V 10U	2	
					C40126, 27	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
VC31101	VCV0050	TRIMMER	1		C40130	ECU1H472JB	P. CAPACITOR 50V 4700P	1	
VR30401, 02	EVM7JGA00B13	V. RESISTOR 1K	2		C40131	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
VR30501-03	EVM7JGA00B53	V. RESISTOR 5K	3		C40132	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1	
VR30504-06	EVM7JGA00B13	V. RESISTOR 1K	3		C40133	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
VR30507-08	EVM7JGA00B53	V. RESISTOR 5K	3		C40134	ECUX1H182KBV	C. CAPACITOR CH 50V 1800P	1	
VR30601	EVM7JGA00B14	V. RESISTOR 10K	1		C40135, 36	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
VR30602	EVM7JGA00B13	V. RESISTOR 1K	1		C40137	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1	
VR30603	EVM7JGA00B53	V. RESISTOR 5K	1		C40138	ECEV1CV2200	E. CAPACITOR CH 16V 22U	1	
VR30604	EVM7JGA00B13	V. RESISTOR 1K	1		C40139	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
VR30801	EVM7JGA00B53	V. RESISTOR 5K	1		C40140	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
VR30802	EVM7JGA00B52	V. RESISTOR 500	1		C40141	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1	
VR30803	EVM7JGA00B14	V. RESISTOR 10K	1		C40142	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
VR30804, 05	EVM7JGA00B13	V. RESISTOR 1K	2		C40143, 44	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	2	
VR30806	EVM7JGA00B15	V. RESISTOR 100K	1		C40201	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
VR30901	EVM7JGA00B23	V. RESISTOR 2K	1		C40202	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1	
VR30903, 04	EVM7JGA00B23	V. RESISTOR 2K	2		C40203	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
VR30906	EVM7JGA00B13	V. RESISTOR 1K	1		C40206	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1	
VR30907, 08	EVM7JGA00B53	V. RESISTOR 5K	2		C40207, 08	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
VR30910	EVM7JGA00B52	V. RESISTOR 500	1		C40209	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
VR31001	EVM7JGA00B24	V. RESISTOR 20K	1		C40211	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
VR31002	EVM7JGA00B52	V. RESISTOR 500	1		C40212	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
VR31101	EVM7JGA00B52	V. RESISTOR 500	1		C40213-16	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4	
VR31102	EVM7JGA00B13	V. RESISTOR 1K	1		C40217	ECEV0JV1010	E. CAPACITOR CH6.3V 100U	1	
					C40218	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
X30601	VX0338	CRYSTAL OSCILLATOR	1		C40219	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1	
		MISCELLANEOUS			C40220	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
					C40221	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1	
					C40222-24	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	3	
					C40225	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
					C40226	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
					C40230	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
					C40231	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
					C40232	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
					C40236	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
					C40237	ECU1H472JB	P. CAPACITOR 50V 4700P	1	
■ E7	VEP04737A	AUDIO P.C. BOARD	1 (RTL)		C40238	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1	
					C40239	ECU1H472JB	P. CAPACITOR 50V 4700P	1	
					C40240	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1	
C40031	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1		C40241	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	
C40032, 33	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C40243, 44	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40034	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1		C40245	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
C40049, 50	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C40246, 47	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40051	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1		C40248	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
C40052, 53	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C40301	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1	
C40054	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1		C40302, 03	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40055	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C40304, 05	ECEV1CN1000	E. CAPACITOR CH 16V 10U	2	
C40068	ECEV1EV4R70	E. CAPACITOR CH 25V 4.7U	1		C40306, 07	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40069	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C40308	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1	
C40070	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1		C40311	ECEV1CV2200	E. CAPACITOR CH 16V 22U	1	
C40071, 72	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C40312, 13	ECEV1CV4700	E. CAPACITOR CH 16V 47U	2	
C40073	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1		C40314, 15	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40074	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C40316	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1	
C40093	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1		C40317, 18	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40094	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C40319	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1	
C40095	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1		C40320, 21	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40096	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1		C40322	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
C40097	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1		C40324	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
C40098	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1		C40326, 27	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40101-04	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	4		C40328, 29	ECEV1CV1000	E. CAPACITOR CH 16V 10U	2	
C40106, 07	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C40330, 31	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40109	ECU1H472JB	P. CAPACITOR 50V 4700P	1		C40332, 33	ECEV1CV1000	E. CAPACITOR CH 16V 10U	2	
C40110	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1		C40334, 35	ECEV1H0R10	E. CAPACITOR CH 50V 0.1U	2	
C40111	ECUX1H561JCV	C. CAPACITOR CH 50V 560P	1		C40336, 37	ECEV1CV1000	E. CAPACITOR CH 16V 10U	2	
C40112	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		C40338, 39	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2	
C40113	ECUX1H182KBV	C. CAPACITOR CH 50V 1800P	1		C40502	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
C40114, 15	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	2		C40503	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1	
C40116	ECEV1CN1000	E. CAPACITOR CH 16V 10U	1		C40504	ECUX1E104ZV	C. CAPACITOR CH 25V 0.1U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C40505-10	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	6		C42408	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1	
C40511	ECEVOJV3300	E. CAPACITOR CH6.3V 33U	1		D40301	MA142WA	DIODE	1	
C40512-15	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	4		D40302	MA147	DIODE	1	
C40517	ECEVOJV3300	E. CAPACITOR CH6.3V 33U	1		D40303, 04	MA142WK	DIODE	2	
C40518, 19	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		D40305, 06	MA142K	DIODE	2	
C40520	ECEVOJV3300	E. CAPACITOR CH6.3V 33U	1		D40307	MA142WK	DIODE	1	
C40608	ECST1CD476Z	T. CAPACITOR CH 16V 47U	1		D40501-03	MA128	DIODE	3	
C40609	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		D40504	MA142WK	DIODE	1	
C40610	ECUX1H223KBN	C. CAPACITOR CH 50V 0.22U	1		D40505	MA128	DIODE	1	
C40611	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		D40602, 03	MA142WK	DIODE	2	
C40612	ECEVICV470Q	E. CAPACITOR CH 16V 47U	1		FL40508, 09	VLF0941C223	FILTER	2	
C40613, 14	ECXS1682JZ	P. CAPACITOR 100V 6800P	2		FL40601	EIR70F012B	TRANSFORMER	1	
C40615	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1		FL40701	VLF1069	FILTER	1	
C40616	ECEVOJN100Q	E. CAPACITOR CH6.3V 10U	1		FL42401	VLF0941C223	FILTER	1	
C40617	ECUX1H390JCV	C. CAPACITOR CH 50V 39P	1		IC40002	XC62AP5002M	IC	1	
C40618	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	1		IC40005	NJM78L09UA	IC	1	
C40619	ECUM1H273KBN	C. CAPACITOR CH 50V 0.027U	1		IC40006	NJM78L09UA	IC	1	
C40620	ECUX1H822KBV	C. CAPACITOR CH 50V 8200P	1		IC40010	AK5340VS	IC	1	
C40621, 22	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC40011	TVHC541FT	IC	1	
C40623	ECEVOJN100Q	E. CAPACITOR CH6.3V 10U	1		IC40016, 17	AD7945BR	IC	2	
C40624	ECUX1H222KBV	C. CAPACITOR CH 50V 2200P	1		IC40018-2	TA75W558FU	IC	4	
C40625	VCC0030	C. CAPACITOR	1		IC40022	NJM062V	IC	1	
C40626	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1		IC40023	TA75W558FU	IC	1	
C40628	ECEVICV470Q	E. CAPACITOR CH 16V 47U	1		IC40024	NJM062V	IC	1	
C40629	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		IC40025	TA75W558FU	IC	1	
C40630	ECST1CD476Z	T. CAPACITOR CH 16V 47U	1		IC40201	XC62AP5002M	IC	1	
C40631	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC40202	AK4320VM	IC	1	
C40632	ECUX1H223KBN	C. CAPACITOR CH 50V 0.22U	1		IC40203	TVHC541FT	IC	1	
C40633	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		IC40204, 05	TA75W558FU	IC	2	
C40634	ECEVICV470Q	E. CAPACITOR CH 16V 47U	1		IC40210	NJM78L09UA	IC	1	
C40635, 36	ECXS1682JZ	P. CAPACITOR 100V 6800P	2		IC40211	NJM79L09UA	IC	1	
C40701-03	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	3		IC40301	MC14053BDT	IC	1	
C40704	ECEVICV100Q	E. CAPACITOR CH 16V 10U	1		IC40302, 03	UPD4052BG	IC	2	
C40705	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC40304-06	TA75W558FU	IC	3	
C40706	ECEVICV220Q	E. CAPACITOR CH 16V 22U	1		IC40307	XC62AP5002M	IC	1	
C40707	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		IC40308	XC62DN5002M	IC	1	
C40708	ECEVOJV470Q	E. CAPACITOR CH6.3V 47U	1		IC40309-1	TA75W558FU	IC	3	
C40709	ECST1VY104Z	T. CAPACITOR CH 35V 0.1U	1		IC40312	BA6138F	IC	1	
C40710	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC40502	LVX32450SC	IC	1	
C40711	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		IC40504, 05	TVHT541FT	IC	2	
C40712	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1		IC40506	TVHC139FT	IC	1	
C40713, 14	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC40507	UPD71055GB	IC	1	
C40715, 16	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2		IC40508	TC7SH04FU	IC	1	
C40717, 18	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	2		IC40509, 10	UPD71055GB	IC	2	
C40719	ECEVICN100Q	E. CAPACITOR CH 16V 10U	1		IC40512	XC62AP5002P	IC	1	
C40720, 21	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC40601	TA75W558FU	IC	1	
C40722	ECUH1H683JB	P. CAPACITOR 50V 0.068U	1		IC40701	CXA1552M	IC	1	
C40723, 24	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC40702	MC14053BDT	IC	1	
C40725	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC40703	NJM062V	IC	1	
C40726, 27	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC40704-07	TA75W558FU	IC	4	
C40728	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC41001	XC62AP3002P	IC	1	
C40729, 30	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC41002	NJM78L09UA	IC	1	
C40731	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC42001-03	TVHT541FT	IC	3	
C41001, 02	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC42004, 05	TVHC541FT	IC	2	
C41003	ECEVOJV3300	E. CAPACITOR CH6.3V 33U	1		IC42006	TC7SH04FU	IC	1	
C41004, 05	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC42007, 08	XC62AP5002P	IC	2	
C41006	ECEVICV470Q	E. CAPACITOR CH 16V 47U	1		IC42009	TVHC541FT	IC	1	
C42001-06	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	6		IC42101	T16GH7AF1216	IC	1	
C42009, 10	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	2		IC42102, 03	K8256DLG7L	IC	2	
C42011, 12	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC42104	AD1893JST	IC	1	
C42013	ECEVOJV3300	E. CAPACITOR CH6.3V 33U	1		IC42105	TVHC157FT	IC	1	
C42014, 15	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC42301	XC62AP5002P	IC	1	
C42016	ECEVOJV3300	E. CAPACITOR CH6.3V 33U	1		IC42302	MC4044M	IC	1	
C42017	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		IC42303	74AC04SJ	IC	1	
C42101, 02	ECUX1H180JCV	C. CAPACITOR CH 50V 18P	2		IC42304	T74VHC74F	IC	1	
C42103-12	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	10		IC42401	TVHT541FT	IC	1	
C42301	ECEVOJV3300	E. CAPACITOR CH6.3V 33U	1		IC42402	HD151015	IC	1	
C42302, 03	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2		IC42403, 04	TVHT541FT	IC	2	
C42304, 05	ECEV1HV0R1Q	E. CAPACITOR CH 50V 0.1U	2		IC42405	TVHC138FT	IC	1	
C42306	ECEVOJV3300	E. CAPACITOR CH6.3V 33U	1		L40001	VL00163J100	COIL 10UH	1	
C42307	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	1		L40201	VL00163J100	COIL 10UH	1	
C42308	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1						
C42309, 10	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	2						
C42401-06	ECUX1E104ZFY	C. CAPACITOR CH 25V 0.1U	6						
C42407	ECEVOJV3300	E. CAPACITOR CH6.3V 33U	1						

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
L40202, 03	VL00319K101	COIL 100UH	2		R40109	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
L40602	VL00423J472	COIL 4700UH	1		R40110	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
L40604	VL00651K391	COIL 390UH	1		R40111, 12	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	2	
P41001	VJP40640160	CONNECTOR (MALE)	1		R40113	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
P41002	VJP3125B009	CONNECTOR (MALE)	1		R40114	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
Q40003, 04	2SD1979	TRANSISTOR	2		R40115-17	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	3	
Q40201, 02	2SD1979	TRANSISTOR	2		R40118	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
Q40301, 02	2SD1979	TRANSISTOR	2		R40119, 20	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2	
Q40304-06	2SB1219A-R	TRANSISTOR	3		R40121, 22	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2	
Q40307-10	2SD1979	TRANSISTOR	4		R40123	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
Q40311	2SB1219A-R	TRANSISTOR	1		R40124	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	1	
Q40604	2SB779-R	TRANSISTOR	1		R40125-27	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3	
Q40605	2SD874-R	TRANSISTOR	1		R40128	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
Q40606	2SD1819A-R	TRANSISTOR	1		R40129	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
Q40607-09	2SD1979	TRANSISTOR	3		R40130	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
Q40610	2SB1220-R	TRANSISTOR	1		R40131	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
Q40611, 12	2SD1821-R	TRANSISTOR	2		R40132	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
Q40613	2SB779-R	TRANSISTOR	1		R40133	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
Q40614	2SD1819A-R	TRANSISTOR	1		R40134	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
Q40615	2SD874-R	TRANSISTOR	1		R40135	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
QR40005	UN5213	TRANSISTOR-RESISTOR	1		R40136	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
QR40006	UN5113	TRANSISTOR-RESISTOR	1		R40137	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
QR40007	UN5213	TRANSISTOR-RESISTOR	1		R40201	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
QR40008	UN5113	TRANSISTOR-RESISTOR	1		R40202	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
QR40201	UN5213	TRANSISTOR-RESISTOR	1		R40203	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
QR40202	UN5113	TRANSISTOR-RESISTOR	1		R40204	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
QR40203	UN5213	TRANSISTOR-RESISTOR	1		R40205, 06	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	2	
QR40204	UN5113	TRANSISTOR-RESISTOR	1		R40207	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
QR40205	UN5213	TRANSISTOR-RESISTOR	1		R40208	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
QR40301, 02	UN5213	TRANSISTOR-RESISTOR	2		R40210, 11	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	2	
QR40304	UN5213	TRANSISTOR-RESISTOR	1		R40212	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
QR40602	UN5113	TRANSISTOR-RESISTOR	1		R40213	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
QR40603	UN5213	TRANSISTOR-RESISTOR	1		R40214	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
QR40604	UN5113	TRANSISTOR-RESISTOR	1		R40215	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
QR40605	UN5213	TRANSISTOR-RESISTOR	1		R40216	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
QR40606	UN5113	TRANSISTOR-RESISTOR	1		R40217	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
QR40701	UN5113	TRANSISTOR-RESISTOR	1		R40218-21	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	4	
QR40702	UN5213	TRANSISTOR-RESISTOR	1		R40222	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
QR40703	UN5113	TRANSISTOR-RESISTOR	1		R40223	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
QR40704	UN5213	TRANSISTOR-RESISTOR	1		R40224	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R40047-53	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	7		R40225	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R40055	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R40226	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R40061	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R40227	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R40062	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1		R40228	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R40063, 64	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2		R40229	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
R40065	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1		R40230	ERJ3RBD123	M. RESISTOR CH 1/16W 12K	1	
R40066	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R40231	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R40075	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R40232	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R40077	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R40233	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R40078-81	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	4		R40234	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R40082	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R40235	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R40083	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R40236	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R40084	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1		R40237	ERJ3RBD123	M. RESISTOR CH 1/16W 12K	1	
R40085, 86	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	2		R40238	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
R40087-89	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	3		R40239	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R40090	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1		R40240, 41	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	2	
R40091, 92	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2		R40242	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R40093	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R40243-45	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3	
R40094	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	1		R40301	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
R40095-97	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3		R40302	ERJ3RBD392	M. RESISTOR CH 1/16W 3.9K	1	
R40098	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1		R40304	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R40099	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R40305	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
R40100	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1		R40306	ERJ3RBD392	M. RESISTOR CH 1/16W 3.9K	1	
R40101	ERJ3GEYJ752	M. RESISTOR CH 1/16W 7.5K	1		R40308	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R40102	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1		R40315	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40103	ERJ3RBD622	M. RESISTOR CH 1/16W 6.2K	1		R40316	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
R40104	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R40317	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R40105	ERJ3GEYJ752	M. RESISTOR CH 1/16W 7.5K	1		R40318	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R40106	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1		R40319	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R40107	ERJ3RBD622	M. RESISTOR CH 1/16W 6.2K	1		R40320, 21	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	2	
R40108	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		R40322	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
					R40323	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
					R40324	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
					R40325	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
					R40327	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	

Ref.No.	Part No.	Part Name & Description	Pes	Remarks	Ref.No.	Part No.	Part Name & Description	Pes	Remarks
R40328	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1		R40705	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1	
R40329, 30	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2		R40706, 07	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	2	
R40331	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R40708	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R40332	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R40709	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R40334	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1		R40710	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R40335	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1		R40711	ERJ3GEYJ273	M. RESISTOR CH 1/16W 27K	1	
R40336	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R40712	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R40337	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R40713	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1	
R40338	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1		R40714	ERJ3RBD471	M. RESISTOR CH 1/16W 470	1	
R40339	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R40716	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R40340	ERJ3GEYJ563	M. RESISTOR CH 1/16W 56K	1		R40717	ERJ3RBD391	M. RESISTOR CH 1/16W 390	1	
R40341	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R40720	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40342	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R40722	ERJ3RBD104	M. RESISTOR CH 1/16W 100K	1	
R40343	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R40724	ERJ3RBD242	M. RESISTOR CH 1/16W 2.4K	1	
R40344	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R40725	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R40345	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R40726	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40347	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R40728	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R40348	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R40729	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R40349	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R40730	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40351	ERJ3GEYJ242	M. RESISTOR CH 1/16W 2.4K	1		R40732	ERJ3GEYJ105	M. RESISTOR CH 1/16W 1M	1	
R40354	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R40733	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R40355	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1		R40734	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R40356	ERJ3GEYJ242	M. RESISTOR CH 1/16W 2.4K	1		R40735	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R40357	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1		R40736	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1	
R40358	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R40738	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40359, 60	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2		R40739	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R40362	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R40740	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R40364, 65	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R42001	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40367	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R42002-11	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	10	
R40369, 70	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	2		R42012-14	ERJ3RBD331	M. RESISTOR CH 1/16W 330	3	
R40502, 03	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2		R42016	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40504, 05	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2		R42017, 18	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R40507-10	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	4		R42020	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R40511, 12	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2		R42021	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40513-16	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	4		R42023	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40518	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R42025	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40608	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R42029	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R40609	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1		R42030-32	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3	
R40610	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R42034-38	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	5	
R40611	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1		R42039	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R40612	ERJ3GEYJ390	M. RESISTOR CH 1/16W 39	1		R42101-04	ERJ3RBD331	M. RESISTOR CH 1/16W 330	4	
R40613	ERJ3RBD183	M. RESISTOR CH 1/16W 18K	1		R42105	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40614	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1		R42106	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R40618	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R42107-09	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	3	
R40619, 20	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	2		R42111, 12	ERJ3RBD331	M. RESISTOR CH 1/16W 330	2	
R40621	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1		R42113	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40622	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R42114	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R40623	ERJ3RBD471	M. RESISTOR CH 1/16W 470	1		R42116	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R40624	ERJ3GEYJ124	M. RESISTOR CH 1/16W 120K	1		R42117	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40625	ERJ3RBD821	M. RESISTOR CH 1/16W 820	1		R42119, 20	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R40626	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R42121	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R40627	ERJ3RBD221	M. RESISTOR CH 1/16W 220	1		R42122	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R40628	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R42123, 24	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	2	
R40629	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1		R42301	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1	
R40632	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1		R42302	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R40633	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R42303	ERJ3RBD102	M. RESISTOR CH 1/16W 1K	1	
R40634	ERJ3RBD223	M. RESISTOR CH 1/16W 22K	1		R42304	ERJ3RBD101	M. RESISTOR CH 1/16W 100	1	
R40635	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1		R42305, 06	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2	
R40636	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1		R42401-04	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	4	
R40637	ERJ6GEYJ201	M. RESISTOR CH 1/10W 200	1		R42405	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R40638	ERJ8GCYJ1R0	M. RESISTOR CH 1/8W 1	1		R42406-24	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	19	
R40639	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	1		R42425-40	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	16	
R40641	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R42441	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R40642	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1		R42442-44	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	3	
R40643	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1		R42445	ERJ3RBD331	M. RESISTOR CH 1/16W 330	1	
R40644	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1						
R40645	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1						
R40646	ERJ8GCYJ1R0	M. RESISTOR CH 1/8W 1	1		T40601, 02	VLT0729	TRANSFORMER	2	
R40647	ERJ3RBD183	M. RESISTOR CH 1/16W 18K	1						
R40648	ERJ3GEYJ390	M. RESISTOR CH 1/16W 39	1		TG40001	EYF6CU	TEST POINT	1	
R40649	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		TG40208	EYF6CU	TEST POINT	1	
R40701	ERJ3RBD183	M. RESISTOR CH 1/16W 18K	1		TG40701	EYF6CU	TEST POINT	1	
R40702	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1						
R40703	ERJ3RBD222	M. RESISTOR CH 1/16W 2.2K	1		TP40003-0	EYF6CU	TEST POINT	5	
R40704	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1		TP40206, 0	EYF6CU	TEST POINT	2	
					TP40210	EYF6CU	TEST POINT	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
TP40301,02	EYF6CU	TEST POINT	2	
TP40601	EYF6CU	TEST POINT	1	
TP40602	VJR0098	TEST POINT	1	
TP40603	EYF6CU	TEST POINT	1	
TP40701,02	EYF6CU	TEST POINT	2	
TP42102-04	EYF6CU	TEST POINT	3	
TP42301,02	EYF6CU	TEST POINT	2	
VR40003,04	EVM7JGA00B14	V.RESISTOR 10K	2	
VR40201,02	EVM7JGA00B14	V.RESISTOR 10K	2	
VR40301,02	EVM7JGA00B14	V.RESISTOR 10K	2	
VR40303,04	VRV0161B103	V.RESISTOR 10K	2	
VR40601	VRV0161B503	V.RESISTOR 50K	1	
VR40602	VRV0161B103	V.RESISTOR 10K	1	
VR40701	VRV0161B503	V.RESISTOR 50K	1	
X42101	VXS0519	CRYSTAL OSCILLATOR	1	
X42301	VXS0968	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	XYN2+J6	SCREW	2	
■ E8	VEP05348C	RF P. C. BOARD	1 (RTL)	
C5005-08	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	4	
C5009	ECEA1CGE101	E. CAPACITOR 16V 100U	1	
C5010-13	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	4	
C5014-17	ECEA1CGE101	E. CAPACITOR 16V 100U	4	
C5018-21	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	4	
C5022	ECEA1CGE101	E. CAPACITOR 16V 100U	1	
C5023	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5026	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5027	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5028-30	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	3	
C5032	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5034,35	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
C5036	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
C5037-44	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	8	
C5045-48	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	4	
C5049-58	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	10	
C5059,60	ECEV1EN4R70	E. CAPACITOR CH 25V 4.7U	2	
C5061,62	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	2	
C5063,64	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	2	
C5065,66	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	2	
C5067,68	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
C5069,70	ECUX1H102KBV	C. CAPACITOR CH 50V 1000P	2	
C5071-74	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	4	
C5075,76	ECEV1EN4R70	E. CAPACITOR CH 25V 4.7U	2	
C5077-82	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	6	
C5103,04	ECUX1H220JCV	C. CAPACITOR CH 50V 22P	2	
C5105,06	ECUX1H181JCV	C. CAPACITOR CH 50V 180P	2	
C5107,08	ECUX1H080DCV	C. CAPACITOR CH 50V 8P	2	
C5109	ECUX1H030CCV	C. CAPACITOR CH 50V 3P	1	
C5110	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C5111	ECUX1H030CCV	C. CAPACITOR CH 50V 3P	1	
C5112	ECUX1H150JCV	C. CAPACITOR CH 50V 15P	1	
C5113,14	ECUX1H080DCV	C. CAPACITOR CH 50V 8P	2	
C5201-04	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	4	
C5205	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
C5206-09	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	4	
C5210	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
C5211-16	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	6	
C5217-20	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	4	
C5221	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5222,23	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C5224,25	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
C5227	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5251-53	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	3	
C5254	ECUX1H820JCV	C. CAPACITOR CH 50V 82P	1	
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C5255,56	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
C5257-59	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	3	
C5260	ECUX1C474ZFN	C. CAPACITOR CH 16V 0.47U	1	
C5262	ECUX1C684KBM	C. CAPACITOR CH 16V 0.68U	1	
C5264	ECUX1H151JCV	C. CAPACITOR CH 50V 150P	1	
C5265	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5267	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C5268	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5270	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1	
C5273-75	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	3	
C5276	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5277	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5278,79	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
C5280	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5281,82	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
C5284	ECUX1H270JCV	C. CAPACITOR CH 50V 27P	1	
C5286	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	1	
C5287,88	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
C5290-93	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	4	
C5294	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C5296	ECUX1H121JCV	C. CAPACITOR CH 50V 120P	1	
C5297	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5298	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5299-03	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	5	
C5304	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C5305	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	1	
C5306-09	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	4	
C5310	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5311-16	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	6	
C5317	ECUX1H330JCV	C. CAPACITOR CH 50V 33P	1	
C5402-05	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	4	
C5406	ECUX1H102JV	C. CAPACITOR CH 50V 1000P	1	
C5407-12	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	6	
C5413	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5414-16	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	3	
C5417	ECUX1H122KBV	C. CAPACITOR CH 50V 1200P	1	
C5418	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5419	ECUX1H122KBV	C. CAPACITOR CH 50V 1200P	1	
C5420	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5421-26	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	6	
C5427,28	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	2	
C5429	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5430	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C5431	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5432	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C5433	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5434	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5435	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5436,37	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	
C5438	ECUX1H152KBV	C. CAPACITOR CH 50V 1500P	1	
C5439	ECUX1H680JCV	C. CAPACITOR CH 50V 68P	1	
C5440	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5441	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5442	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C5443	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5444	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5445	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5446	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5447	ECUX1H821JV	C. CAPACITOR CH 50V 820P	1	
C5448	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C5449-51	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	3	
C5452	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5453-55	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	3	
C5457,58	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
C5459	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
C5460	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5461	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5462-65	ECUX1H152KBV	C. CAPACITOR CH 50V 1500P	4	
C5466	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
C5467	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5468	ECUM1C105ZFN	C. CAPACITOR CH 16V 1U	1	
C5469	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5470-77	ECUX1H270JCV	C. CAPACITOR CH 50V 27P	8	
C5501	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	1	
C5508,09	ECUX1E104ZVF	C. CAPACITOR CH 25V 0.1U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C5511, 12	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2		IC5606	TVHC32FT	IC	1	
C5514	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		IC5607-10	MC14053BF	IC	4	
C5515-19	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	5		IC5611	NJM064V	IC	1	
C5520	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1		IC5612	NJM062M	IC	1	
C5521-26	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	6		IC5613	NJM064V	IC	1	
C5529	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC5751	MC74HC4066F	IC	1	
C5533-35	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	3		IC5752	TVHC32FT	IC	1	
C5601, 02	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		IC5753	TCVHCT04F	IC	1	
C5604	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC5754	TCVHC74F	IC	1	
C5606-25	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	20		IC5755	TCVHC86F	IC	1	
C5628-30	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	3		IC5757	TVHC32FT	IC	1	
C5632-40	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	9		IC5758	TVHC153FT	IC	1	
C5642	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		IC5759	TCVHCT04F	IC	1	
C5644, 45	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		IC5760	XC62AP3002P	IC	1	
C5666, 67	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		IC5761	XC62AP3202P	IC	1	
C5672-80	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	9		IC5762	XC62AP3002P	IC	1	
C5751	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1		IC5763	TC7SH86FU	IC	1	
C5752	ECEV0JV1010	E. CAPACITOR CH6.3V 100U	1		IC5764	TC7SH08FU	IC	1	
C5753, 54	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		L5001-04	VL00163J330	COIL	33UH	4
C5756	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		L5101-04	VL00163J2R2	COIL	2.2UH	4
C5757, 58	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	2		L5251	VL00163J1R0	COIL	1UH	1
C5759, 60	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		L5252, 53	VL00163J101	COIL	100UH	2
C5761, 62	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	2		L5254	VL00163JR68	COIL	0.68UH	1
C5763	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		L5255	VL00163JR39	COIL	0.39UH	1
C5769-74	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	6		L5256	VL00163JR33	COIL	0.33UH	1
C5775	ECEA1CGE101	E. CAPACITOR 16V 100U	1		L5258, 59	VL00163JR39	COIL	0.39UH	2
C5776	ECEA1CGE471	E. CAPACITOR 16V 470U	1		L5260	VL00163JR68	COIL	0.68UH	1
C5777-79	ECEA1CGE101	E. CAPACITOR 16V 100U	3		L5401-07	VLQ0771R10K	COIL	1UH	7
C5780-88	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	9		P5000	VJP3454B096	CONNECTOR (MALE)		1
C5790	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	1		P5001	VJS3900C013	CONNECTOR (FEMALE)		1
C5791	ECEV1CV2200	E. CAPACITOR CH 16V 22U	1		P5201	VJS3900C010	CONNECTOR (FEMALE)		1
C5793, 94	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	2		05001	2SD2402	TRANSISTOR		1
C5800-02	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	3		05002-05	2SB710A-R	TRANSISTOR		4
C5803	ECEA1CGE101	E. CAPACITOR 16V 100U	1		05006, 07	2SC3130	TRANSISTOR		2
C5804	ECEA1CGE471	E. CAPACITOR 16V 470U	1		05008, 09	2SA1022-C	TRANSISTOR		2
C5805, 06	ECEA1CGE101	E. CAPACITOR 16V 100U	2		05010, 11	2SD1979	TRANSISTOR		2
C5807-11	ECUX1E104ZFV	C. CAPACITOR CH 25V 0.1U	5		05012, 13	2SC2954	TRANSISTOR		2
D5001-04	MA152WK	DIODE	4		05014	2SD1979	TRANSISTOR		1
D5501	MA152K	DIODE	1		05015	2SA1022-C	TRANSISTOR		1
D5751	MA153	DIODE	1		05016	2SD1979	TRANSISTOR		1
FL5001-05	VLF0931	FILTER	5		05017	2SA1022-C	TRANSISTOR		1
FL5751-59	VLF0931	FILTER	9		05018, 19	2SK508-B	TRANSISTOR		2
IC5001	MB10HL116PF	IC	1		05020, 21	2SC2954	TRANSISTOR		2
IC5002	MB10HL131PF	IC	1		05022, 23	2SD1979	TRANSISTOR		2
IC5003, 04	MB10HL116PF	IC	2		05024, 25	2SK508-B	TRANSISTOR		2
IC5005	AN78M08	IC	1		05026, 27	2SD1979	TRANSISTOR		2
IC5006	AN79M08F	IC	1		05028, 29	2SC2954	TRANSISTOR		2
IC5201, 02	UPC5102GS030	IC	2		05030, 31	2SC3130	TRANSISTOR		2
IC5251	MC1495D	IC	1		05103, 04	2SB709A-R	TRANSISTOR		2
IC5252	UPC1663G	IC	1		05105-08	2SC3735-B	TRANSISTOR		4
IC5253	NJM1496M	IC	1		05201-03	2SB710A-R	TRANSISTOR		3
IC5254	NJM082BM	IC	1		05204-09	2SD1979	TRANSISTOR		6
IC5255	NJM319V	IC	1		05210	2SC2295-C	TRANSISTOR		1
IC5401	AN3730FA	IC	1		05211	XN6537	TRANSISTOR-RESISTOR		1
IC5402	TC4S66F	IC	1		05212	2SC2295-C	TRANSISTOR		1
IC5403	AN3740FAP	IC	1		05251	2SB710A-R	TRANSISTOR		1
IC5404	TC4S66F	IC	1		05252	XN5531	TRANSISTOR-RESISTOR		1
IC5405	NJM064V	IC	1		05253	2SB710A-R	TRANSISTOR		1
IC5406	NJM084M	IC	1		05254, 55	2SK508K512	TRANSISTOR		2
IC5407	NJM082BV	IC	1		05256	2SB710A-R	TRANSISTOR		1
IC5501	UPC1663G	IC	1		05257	XN5531	TRANSISTOR-RESISTOR		1
IC5502	AD9057BRS	IC	1		05258	2SB710A-R	TRANSISTOR		1
IC5503	T74LCX244F	IC	1		05259-62	2SD1979	TRANSISTOR		4
IC5507	S80727ANDQ	IC	1		05263, 64	2SC3130	TRANSISTOR		2
IC5508	TC6326AF	IC	1		05265	XN5531	TRANSISTOR-RESISTOR		1
IC5509	NJM084M	IC	1		05266, 67	2SC3130	TRANSISTOR		2
IC5510	TVHC32FT	IC	1		05401	XN5531	TRANSISTOR-RESISTOR		1
IC5512	MC10H124M	IC	1		05402, 03	2SC3130	TRANSISTOR		2
IC5601	TCVHC86F	IC	1		05404	XN5531	TRANSISTOR-RESISTOR		1
IC5602	M62370GP	IC	1		05601	2SA1022-C	TRANSISTOR		1
IC5604	NJM064V	IC	1		05602	2SB710A-R	TRANSISTOR		1
IC5605	TCVHCT04F	IC	1		05751	2SB709A-R	TRANSISTOR		1

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
05752	2SD601A-R	TRANSISTOR	1		R5127, 28	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
05753, 54	2SA1022-C	TRANSISTOR	2		R5129-34	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	6	
OR5001	UN5215	TRANSISTOR-RESISTOR	1		R5201	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
OR5002	UN5213	TRANSISTOR-RESISTOR	1		R5202	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
OR5003	UN5114	TRANSISTOR-RESISTOR	1		R5203, 04	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	2	
OR5004-06	UN5213	TRANSISTOR-RESISTOR	3		R5205	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
OR5101, 02	UN5215	TRANSISTOR-RESISTOR	2		R5206	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
OR5751, 52	UN2215-R	TRANSISTOR-RESISTOR	2		R5207	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5001, 02	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2		R5208	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R5003, 04	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R5209-12	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	4	
R5005	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R5213, 14	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R5006	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R5215, 16	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	2	
R5007	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R5217, 18	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	2	
R5008	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R5219, 20	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R5009-12	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	4		R5221, 22	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2	
R5013	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R5223	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R5014, 15	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R5224	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R5017	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R5226	ERJ3GEYJ560	M. RESISTOR CH 1/16W 56	1	
R5018, 19	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	2		R5227	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R5020, 21	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R5228	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R5022, 23	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2		R5229	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R5024	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R5230-32	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	3	
R5026, 27	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R5251	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R5028, 29	ERJ3GEYJ332	M. RESISTOR CH 1/16W 3.3K	2		R5252, 53	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	2	
R5030	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1		R5254, 55	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	2	
R5031, 32	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	2		R5256	ERJ3RBD391	M. RESISTOR CH 1/16W 390	1	
R5033, 34	ERJ3GEYJ560	M. RESISTOR CH 1/16W 56	2		R5257	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R5035	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R5258, 59	ERJ3RBD181	M. RESISTOR CH 1/16W 180	2	
R5036-39	ERJ3GEYJ471	M. RESISTOR CH 1/16W 470	4		R5260, 61	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2	
R5040, 41	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	2		R5262, 63	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2	
R5042, 43	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2		R5264	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5044	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1		R5265	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R5045, 46	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	2		R5266, 67	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R5047	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R5268	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R5048	ERJ3GEYJ272	M. RESISTOR CH 1/16W 2.7K	1		R5269	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5049	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R5270	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R5050, 51	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R5271, 72	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2	
R5052-55	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	4		R5273	ERJ3GEYJ223	M. RESISTOR CH 1/16W 22K	1	
R5056-59	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	4		R5274, 75	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R5060, 61	ERJ3GEYJ472	M. RESISTOR CH 1/16W 4.7K	2		R5276	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5062, 63	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	2		R5277, 78	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	2	
R5064, 65	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	2		R5279, 80	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R5066, 67	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R5281	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R5068, 69	ERJ6GEYJ182	M. RESISTOR CH 1/10W 1.8K	2		R5282	ERJ3RBD510	M. RESISTOR CH 1/16W 51	1	
R5070, 71	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	2		R5283	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R5072, 73	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2		R5284, 85	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	2	
R5074, 75	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R5286	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R5076, 77	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	2		R5287	ERJ6GEYJ821	M. RESISTOR CH 1/10W 820	1	
R5078, 79	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	2		R5288	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R5080, 81	ERJ12YJ270	M. RESISTOR CH 1/2W 270	2		R5289-92	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	4	
R5082, 83	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R5293	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R5084, 85	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2		R5294	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R5086, 87	ERJ3GEYJ151	M. RESISTOR CH 1/16W 150	2		R5295	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R5088-90	ERJ6GEYJ152	M. RESISTOR CH 1/10W 1.5K	3		R5296	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R5091	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R5297	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R5092	ERJ6GEYJ152	M. RESISTOR CH 1/10W 1.5K	1		R5298, 99	ERJ3GEYJ152	M. RESISTOR CH 1/16W 1.5K	2	
R5093	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R5300-04	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	5	
R5094, 95	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	2		R5305	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1	
R5107, 08	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	2		R5306-09	ERJ3GEYJ560	M. RESISTOR CH 1/16W 56	4	
R5109, 10	ERJ6GEYJ222	M. RESISTOR CH 1/10W 2.2K	2		R5310, 11	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2	
R5111	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	1		R5312	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1	
R5112	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1		R5313	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R5113	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1		R5314	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	
R5114	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	1		R5315	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R5115	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1		R5316	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
R5116	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1		R5317	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
R5117, 18	ERJ8GCGY101	M. RESISTOR CH 1/8W 100	2		R5318	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R5119, 20	ERJ8GCGYJ680	M. RESISTOR CH 1/8W 68	2		R5319	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1	
R5121, 22	ERJ8GCGY101	M. RESISTOR CH 1/8W 100	2		R5320	ERJ3GEYJ681	M. RESISTOR CH 1/16W 680	1	
R5123	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1		R5321	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R5124	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1		R5322, 23	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	2	
R5125	ERJ3GEYJ682	M. RESISTOR CH 1/16W 6.8K	1		R5325	ERJ3GEYJ391	M. RESISTOR CH 1/16W 390	1	
R5126	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1		R5326	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1	
					R5327	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
					R5328	ERJ3GEYJ181	M. RESISTOR CH 1/16W 180	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R5329, 30	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R5535	ERJ3GEYG472	M. RESISTOR CH 1/16W 4.7K	1	
R5331	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1		R5543	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1	
R5332	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R5548	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R5333	ERJ3GEYJ182	M. RESISTOR CH 1/16W 1.8K	1		R5549	ERJ3RBD183	M. RESISTOR CH 1/16W 18K	1	
R5334, 35	ERJ3GEYJ680	M. RESISTOR CH 1/16W 68	2		R5550	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R5336-39	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	4		R5552	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R5340, 41	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	2		R5553	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R5343	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R5557	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R5344	ERJ3RBD273	M. RESISTOR CH 1/16W 27K	1		R5559	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R5345	ERJ3RBD392	M. RESISTOR CH 1/16W 3.9K	1		R5560-63	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	4	
R5346	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1		R5564	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R5347	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R5565-68	ERJ3GEYJ560	M. RESISTOR CH 1/16W 56	4	
R5348	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R5569	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R5349	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R5571	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1	
R5350	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1		R5572	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5351	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1		R5573	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R5352	ERJ3RBD682	M. RESISTOR CH 1/16W 6.8K	1		R5601-03	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3	
R5403, 04	ERJ3RBD561	M. RESISTOR CH 1/16W 560	2		R5609-11	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	3	
R5407	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R5619	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R5409, 10	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R5621	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1	
R5411	ERJ3RBD562	M. RESISTOR CH 1/16W 5.6K	1		R5622	ERJ3RBD123	M. RESISTOR CH 1/16W 12K	1	
R5412	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R5623	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
R5413	ERJ3GEYJ122	M. RESISTOR CH 1/16W 1.2K	1		R5624	ERJ3RBD333	M. RESISTOR CH 1/16W 33K	1	
R5414	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R5625	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R5415, 16	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2		R5626	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1	
R5417	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R5627	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R5418	ERJ3RBD272	M. RESISTOR CH 1/16W 2.7K	1		R5628	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5419	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1		R5629, 30	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	2	
R5420	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R5631	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5421	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1		R5633-35	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	3	
R5422, 23	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2		R5638, 39	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2	
R5424	ERJ3GEYG152	M. RESISTOR CH 1/16W 1.5K	1		R5640	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
R5426	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R5641	ERJ3RBD123	M. RESISTOR CH 1/16W 12K	1	
R5427	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R5642	ERJ3RBD333	M. RESISTOR CH 1/16W 33K	1	
R5428	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R5643	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1	
R5429	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		R5644	ERJ3RBD332	M. RESISTOR CH 1/16W 3.3K	1	
R5430	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R5645, 46	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	2	
R5431	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R5647, 48	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R5432	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R5660	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R5433	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R5667	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R5434	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R5672	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R5435	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	1		R5674, 75	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R5436	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	1		R5676	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5437	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R5677	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	1	
R5438	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R5678	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1	
R5440	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R5679	ERJ3RBD562	M. RESISTOR CH 1/16W 5.6K	1	
R5441	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R5680	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5442	ERJ3GEYJ222	M. RESISTOR CH 1/16W 2.2K	1		R5682	ERJ3RBD822	M. RESISTOR CH 1/16W 8.2K	1	
R5443, 44	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R5683	ERJ3RBD153	M. RESISTOR CH 1/16W 15K	1	
R5445	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R5684	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5446	ERJ3GEYJ680	M. RESISTOR CH 1/16W 68	1		R5685	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R5448	ERJ3GEYJ330	M. RESISTOR CH 1/16W 33	1		R5690	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5449	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R5695	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R5450	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R5696	ERJ3RBD472	M. RESISTOR CH 1/16W 4.7K	1	
R5452	ERJ3GEYJ821	M. RESISTOR CH 1/16W 820	1		R5697	ERJ3RBD272	M. RESISTOR CH 1/16W 2.7K	1	
R5453	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R5698, 99	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2	
R5454	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1		R5700	ERJ3RBD473	M. RESISTOR CH 1/16W 47K	1	
R5455	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R5701, 02	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R5456	ERJ3RED510	M. RESISTOR CH 1/16W 51	1		R5703, 04	ERJ3RBD103	M. RESISTOR CH 1/16W 10K	2	
R5457	ERJ3RED750	M. RESISTOR CH 1/16W 75	1		R5705-10	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	6	
R5458	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R5751	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R5459	ERJ3RBD822	M. RESISTOR CH 1/16W 8.2K	1		R5752	ERJ3GEYJ683	M. RESISTOR CH 1/16W 68K	1	
R5460-62	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	3		R5753	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
R5463	ERJ3RBD182	M. RESISTOR CH 1/16W 1.8K	1		R5754-58	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	5	
R5466	ERJ3GEYG822	M. RESISTOR CH 1/16W 8.2K	1		R5760-67	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	8	
R5505, 06	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2		R5772, 73	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R5510, 11	ERJ3RED360	M. RESISTOR CH 1/16W 36	2		R5774-77	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	4	
R5513, 14	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	2		R5778	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1	
R5515, 16	ERJ3GEYJ331	M. RESISTOR CH 1/16W 330	2		R5779, 80	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
R5517	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R5781, 82	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	2	
R5518	ERJ3RED510	M. RESISTOR CH 1/16W 51	1		R5783-87	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	5	
R5519	ERJ3RBD821	M. RESISTOR CH 1/16W 820	1		R5788	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R5520	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R5789	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	
R5531	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1		R5790	ERJ3GEYJ392	M. RESISTOR CH 1/16W 3.9K	1	
R5534	ERJ3GEYJ470	M. RESISTOR CH 1/16W 47	1		R5791	ERJ3GEYJ562	M. RESISTOR CH 1/16W 5.6K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks	Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R5792	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		C60014	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
R5793-95	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	3		C60015-17	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
R5796	ERJ3GEYOR00	M. RESISTOR CH 1/16W 0	1		C60018	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
R5797	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		C60019	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
R5798, 99	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2		C60020	ECEV0JV4700	E. CAPACITOR CH6.3V 47U	1	
R5800-02	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3		C60021-27	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	7	
R5803	ERDS2TJ390	C. RESISTOR 1/4W 39	1		C60029, 30	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
R5804-06	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	3		C60032, 33	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	2	
R5807	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		C60034	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
R5808, 09	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		C60101-03	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
R5810-20	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	11		C60201	ECUX1H272KBV	C. CAPACITOR CH 50V 2700P	1	
TG5001	EYF6CU	TEST POINT	1		C60202-12	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	11	
TG5251	EYF6CU	TEST POINT	1		C60214	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
TG5401	EYF6CU	TEST POINT	1		C60301-04	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	4	
TG5502	EYF6CU	TEST POINT	1		C60306	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
TG5751	EYF6CU	TEST POINT	1		C60308	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
TP5001-04	EYF6CU	TEST POINT	4		C60401-04	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	4	
TP5101, 02	EYF6CU	TEST POINT	2		C60405	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1	
TP5251, 52	EYF6CU	TEST POINT	2		C60406	ECUX1E105KBP	C. CAPACITOR CH 25V 1U	1	
TP5401-04	EYF6CU	TEST POINT	4		C60407	VCK0152	C. CAPACITOR	1	
TP5751, 52	EYF6CU	TEST POINT	2		C60408, 09	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
TP5755-57	EYF6CU	TEST POINT	3		C60410	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
TP5759	EYF6CU	TEST POINT	1		C60501-05	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	5	
TP5901-08	EYF6CU	TEST POINT	8		C60603	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
VR5402	VRV0161B502	V. RESISTOR 5K	1		C60604	ECEV0JV4700	E. CAPACITOR CH6.3V 47U	1	
		MISCELLANEOUS			C60605	VCK0152	C. CAPACITOR	1	
	VMP5358	P.C.B. ANGLE	2		C60606	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
	XTV3+6FFR	SCREW	2		C60607	VCK0152	C. CAPACITOR	1	
■ E9	VEP06B93B	RS-232C P.C. BOARD	1 (RTL)		C60608	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
C6001-05	ECEA1HKA0R1	E. CAPACITOR 50V 0.1U	5		C60609	VCK0152	C. CAPACITOR	1	
IC6001	ADM202JN	IC	1		C60901-12	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	12	
L6001-03	VLP0083	COIL	3		C60913	ECU1C104JB	P. CAPACITOR 16V 0.1U	1	
P6001	VJS2582B009	CONNECTOR (FEMALE)	1		C60914	ECEV1HV3R30	E. CAPACITOR CH 50V 3.3U	1	
P6002	VJS3533	CONNECTOR (FEMALE)	1		C60915	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
R6001-03	ERDS2TJ100	C. RESISTOR 1/4W 10	3		C60916	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
TG6005	VJR0098	TEST POINT	1		C60917	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
TP6001-04	VJR0098	TEST POINT	4		C60918-20	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3	
		MISCELLANEOUS			C61001, 02	ECEV1CV4700	E. CAPACITOR CH 16V 47U	2	
	XSB3+6FZ	SCREW	2		C61003-06	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	4	
	VMP5359	OPTION ANGLE	1		C61101	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
■ E10	VEP06D02A	AV SYSCON P.C. BOARD	1 (RTL)		D60001, 02	MA143	DIODE	2	
C60001	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D60201	MA143	DIODE	1	
C60002	ECEV1HVR330	E. CAPACITOR CH 50V 0.33U	1		D60402-05	MA142WK	DIODE	4	
C60003	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D60406	MA142WA	DIODE	1	
C60006	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D60407	MA142WK	DIODE	1	
C60008-11	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	4		D60408	MA142K	DIODE	1	
C60012	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		FL60601-03	VLF0941C223	FILTER	3	
C60013	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC60001	M31010M6104H	IC	1	
					IC60002	S80730ANDT	IC	1	
					IC60003	TVHC14FT	IC	1	
					IC60004	TVHC126FT	IC	1	
					IC60005	TVHC04FT	IC	1	
					IC60006	TVHC08FT	IC	1	
					IC60007	TVHC32FT	IC	1	
					IC60008	TVHC74FT	IC	1	
					IC60009, 10	TVHC138FT	IC	2	
					IC60011	TVHC00FT	IC	1	
					IC60013	TC7SH32FU	IC	1	
					IC60101	MBLV80BA12PT	IC	1	
					IC60102, 03	KM68V1CL	IC	2	
					IC60201	T163G26-1019	IC	1	
					IC60202	TVHC14FT	IC	1	
					IC60203	TVHC04FT	IC	1	
					IC60204	UPC393G2	IC	1	
					IC60206	TVHC14FT	IC	1	
					IC60301	LVX32450SC	IC	1	
					IC60302-04	TVHT541FT	IC	3	
					IC60306	TC7SH08FU	IC	1	
					IC60308	TVHC245FT	IC	1	
					IC60401	TVHC08FT	IC	1	
					IC60402	MC14538BF	IC	1	
					IC60403	TVHC123FT	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC60404	MC14538BF	IC	1		R60218, 19	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
IC60405	TC7SH32FU	IC	1		R60220	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
IC60501	TVHC245FT	IC	1		R60221-25	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	5	
IC60502-05	TVHC244FT	IC	4		R60226	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
IC60901	TVHT04FT	IC	1		R60227-38	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	12	
IC60902	TVHC32FT	IC	1		R60239, 40	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
IC60903, 04	TVHC573FT	IC	2		R60241, 42	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
IC60905	D703003GC017	IC	1		R60243	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
IC60906	TC7SH04FU	IC	1		R60244-46	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	3	
IC60907	TVHC04FT	IC	1		R60247	ERJ3GEYJ102	M. RESISTOR CH 1/16W 1K	1	
IC60908	TVHC139FT	IC	1		R60248-52	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	5	
IC60909	TL7705CPSB	IC	1		R60253-62	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	10	
IC61001	IDT71321L55F	IC	1		R60263	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1	
IC61002	STK12C68S45	IC	1		R60264, 65	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
IC61003	MBF8TA90PFTS	IC	1		R60266, 67	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2	
IC61101	TVHC126FT	IC	1		R60270	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
ID60101	VS13138A	IC	1		R60271-73	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	3	
ID61003	VS13139B	IC	1		R60301-05	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	5	
L60001	VL00319K100	COIL 10UH	1		R60306-08	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	3	
L60501-35	VLP0155	COIL	35		R60309-34	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	26	
L60601	VL00319K100	COIL 10UH	1		R60401-05	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	5	
L60901	VL00319K100	COIL 10UH	1		R60406-13	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	8	
P60601	VJP40640160	CONNECTOR (MALE)	1		R60414-17	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	4	
P60801	VJS3791B050	CONNECTOR (FEMALE)	1		R60418	ERJ3GEYJ123	M. RESISTOR CH 1/16W 12K	1	
P60802	VJS3791B020	CONNECTOR (FEMALE)	1		R60419	ERJ3GEYJ224	M. RESISTOR CH 1/16W 220K	1	
P60804	VJS3791B020	CONNECTOR (FEMALE)	1		R60420	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
P61101, 02	VJS3406B009	CONNECTOR (FEMALE)	2		R60421, 22	ERJ3GEYJ394	M. RESISTOR CH 1/16W 390K	2	
QR60001	UN5213	TRANSISTOR-RESISTOR	1		R60423, 24	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
QR60201	UN5213	TRANSISTOR-RESISTOR	1		R60503, 04	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
QR60401-2	UN5214	TRANSISTOR-RESISTOR	21		R60505-07	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	3	
R60001	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R60508-11	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	4	
R60002	ERJ3GEYG471	M. RESISTOR CH 1/16W 470	1		R60512	ERJ3GEYJ100	M. RESISTOR CH 1/16W 10	1	
R60003-09	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	7		R60513-20	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	8	
R60010	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	1		R60603-10	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	8	
R60011	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R60901, 02	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	2	
R60013	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1		R60903	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1	
R60014, 15	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	2		R60904, 05	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R60017	ERJ3GEYJ221	M. RESISTOR CH 1/16W 220	1		R60906, 07	ERJ3GEYG332	M. RESISTOR CH 1/16W 3.3K	2	
R60018-21	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	4		R60909, 10	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R60022	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R60911	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R60023	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R60914	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R60024	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R60916	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R60025	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R60917-23	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	7	
R60026	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R60925-29	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	5	
R60029, 30	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2		R60930, 31	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2	
R60032-34	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	3		R60932-39	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	8	
R60035	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R60940	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R60036-38	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	3		R60942	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R60040-43	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	4		R60943, 44	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R60045, 46	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2		R60945	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R60047-50	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	4		R60946	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R60053-56	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	4		R60947-49	ERJ3GEYJ101	M. RESISTOR CH 1/16W 100	3	
R60059, 60	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	2		R60950-57	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	8	
R60064	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R61001	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R60065	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	1		R61002	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1	
R60066-68	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	3		R61003, 04	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R60101	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R61005	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R60102-04	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	3		R61103	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R60105	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		R61104	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R60201	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		R61105	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1	
R60203, 04	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2		R61106	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1	
R60205, 06	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	2		R61107-11	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	5	
R60207	ERJ3GEY0R00	M. RESISTOR CH 1/16W 0	1		R61112, 13	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	2	
R60208	ERJ3GEYJ394	M. RESISTOR CH 1/16W 390K	1		SW60902	VSS0367-04B	SWITCH	1	
R60209	ERJ3GEYJ473	M. RESISTOR CH 1/16W 47K	1		TG60001	EYF6CU	TEST POINT	1	
R60210	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		TG60901	EYF6CU	TEST POINT	1	
R60211	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		TP60001-03	EYF6CU	TEST POINT	3	
R60212, 13	ERJ3GEYG102	M. RESISTOR CH 1/16W 1K	2		TP60901-03	EYF6CU	TEST POINT	3	
R60214	ERJ3GEYJ104	M. RESISTOR CH 1/16W 100K	1		TP61101, 02	EYF6CU	TEST POINT	2	
R60216	ERJ3GEYJ103	M. RESISTOR CH 1/16W 10K	1		VR60001, 02	VRV0161B203	V. RESISTOR 20K	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
X60001	VXS0833	CRYSTAL OSCILLATOR	1		R729	ERJ6GEYG220	M.RESISTOR CH 1/10W 22	1	
X60901	VXS1034	CRYSTAL OSCILLATOR	1		R731	ERJ6GEYG220	M.RESISTOR CH 1/10W 22	1	
		MISCELLANEOUS			R732	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
	XYN2+J6	SCREW	2		R733, 34	ERJ6GEYG470	M.RESISTOR CH 1/10W 47	2	
					R735	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
					R736, 37	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	2	
					R738	ERJ6GEYG220	M.RESISTOR CH 1/10W 22	1	
					R740	ERJ6GEYG220	M.RESISTOR CH 1/10W 22	1	
					R741	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
					R742	ERJ6GEYG470	M.RESISTOR CH 1/10W 47	1	
					R743	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
■ E11	VEP03F25A	REAR JACK P.C. BOARD	1	(RTL)	R744	ERJ6GEYG470	M.RESISTOR CH 1/10W 47	1	
					R745	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
					R746	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
C701, 02	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		R747	ERJ6GEYG220	M.RESISTOR CH 1/10W 22	1	
C703, 04	ECEA1CKA470	E. CAPACITOR 16V 47U	2		R748	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
C706, 07	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		R750	ERJ6GEYG220	M.RESISTOR CH 1/10W 22	1	
C708	ECEA1CKA470	E. CAPACITOR 16V 47U	1		R751	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
C709, 10	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		R752, 53	ERJ6GEYG470	M.RESISTOR CH 1/10W 47	2	
C711	ECEA1CKA470	E. CAPACITOR 16V 47U	1		R754, 55	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	2	
C715, 16	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		R756	ERJ6GEYG220	M.RESISTOR CH 1/10W 22	1	
C717	ECEA1CKA470	E. CAPACITOR 16V 47U	1		R758	ERJ6GEYG220	M.RESISTOR CH 1/10W 22	1	
C718	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1		R759	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
C719	ECEA1CKA470	E. CAPACITOR 16V 47U	1		R760, 61	ERJ6GEYG470	M.RESISTOR CH 1/10W 47	2	
C720, 21	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	2		R762	ERJ6GEYG682	M.RESISTOR CH 1/10W 6.8K	1	
C726, 27	ECEA1CKN330	E. CAPACITOR 16V 33U	2		R763, 64	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	2	
					R765	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
D701-03	MA151K	DIODE	3		R766	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
FL701, 02	VLP0145	COIL	2		R767, 68	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	2	
FL705-14	VLP0145	COIL	10		R769-72	ERJ6GEYF561	M.RESISTOR CH 1/10W 560	4	
					R773-76	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	4	
IC701	MC74HC4053F	IC	1						
IC702	XC62AP5002P	IC	1						
IC703	XC62DN5002P	IC	1						
J701, 02	VJS3155	CONNECTOR (FEMALE)	2		■ E12	VEP06B94C	FRONT P.C. BOARD	1	(RTL)
J703-06	VJS3154	CONNECTOR (FEMALE)	4		■	VEP00Y35B	REMOTE P.C. BOARD	1	(RTL) FOR VEP06B94C
J707-09	VJJ0323	RCA PIN JACK	3						
L701-04	VL00319K101	COIL 100UH	4						
P701, 02	VJP3600F016K	CONNECTOR (MALE)	2						
QR701-03	XN4601	TRANSISTOR-RESISTOR	3		C65001	ECEA1AKS221	E. CAPACITOR 10V 220U	1	
QR705	XN4501	TRANSISTOR-RESISTOR	1		C65002, 03	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
QR706	XN4401	TRANSISTOR-RESISTOR	1		C65004	ECUM1H104ZFN	C. CAPACITOR CH 50V 0.1U	1	
QR707	XN4501	TRANSISTOR-RESISTOR	1		C65005	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
QR708	XN4401	TRANSISTOR-RESISTOR	1		C65006	ECEA1CKS330	E. CAPACITOR 16V 33U	1	
QR709	XN4501	TRANSISTOR-RESISTOR	1		C65007	ECUM1H103KBN	C. CAPACITOR CH 50V 0.01U	1	
QR710	XN4401	TRANSISTOR-RESISTOR	1		C65008	ECEA1AKS221	E. CAPACITOR 10V 220U	1	
QR711	XN4501	TRANSISTOR-RESISTOR	1		C65009, 10	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	2	
QR712	XN4401	TRANSISTOR-RESISTOR	1		C65011, 12	ECUM1H220JCN	C. CAPACITOR CH 50V 22P	2	
QR713	XN4501	TRANSISTOR-RESISTOR	1		C65013, 14	ECKF1H121KB	C. CAPACITOR 50V 120P	2	
QR714	UN5113	TRANSISTOR-RESISTOR	1		C65301	ECKF1H101KB	C. CAPACITOR 50V 100P	1	
R701-03	ERJ6RED750	M.RESISTOR CH 1/10W 75	3		D65002	MA701A	DIODE	1	
R704	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1		D65003-07	MA153	DIODE	5	
R705	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1		D65008-10	MA151K	DIODE	3	
R707	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1		D65101-13	MA151K	DIODE	13	
R708	ERJ6GEYG470	M.RESISTOR CH 1/10W 47	1		D65116-19	MA151K	DIODE	4	
R709	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1		D65120-23	LN38GCPP	LED	4	
R710	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1		D65124	LN28RCPP	LED	1	
R711	ERJ6GEYG470	M.RESISTOR CH 1/10W 47	1		D65125-28	LN38GCPP	LED	4	
R712	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1						
R713	ERJ6GEYF472	M.RESISTOR CH 1/10W 4.7K	1		DP65001	VSL0489	DISPLAY	1	
R714	ERJ6GEYG470	M.RESISTOR CH 1/10W 47	1						
R715	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1		IC65001	UPD75236J039	IC	1	
R716	ERJ6RED750	M.RESISTOR CH 1/10W 75	1		IC65002	MM1382-R	IC	1	
R717-19	ERJ6RED680	M.RESISTOR CH 1/10W 68	3						
R721	ERJ6RED680	M.RESISTOR CH 1/10W 68	1		J65001	VJJ0571	JACK	1	
R724	ERJ6GEYF473	M.RESISTOR CH 1/10W 47K	1		J65005	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1	
R726	ERJ6GEYF822	M.RESISTOR CH 1/10W 8.2K	1		J65301	VJJ0277	REMOTE CONTROL JACK	1	
R727	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1						
R728	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1		L65001, 02	VL00319K101	COIL 100UH	2	
					L65003	VL00319K121	COIL 120UH	1	
					P65001	VJS3537B024G	CONNECTOR (FEMALE)	1	
					P65003	VJP3042A006W	CONNECTOR (MALE)	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
P65301	VJS3042B006W	CONNECTOR (FEMALE)	1		C2111, 12	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
Q65002, 03	2SB710A-R	TRANSISTOR	2		C2113	ECEV1HVR330	E. CAPACITOR CH 50V 0.33U	1	
Q65101-08	MSD601-R	TRANSISTOR	8		C2114	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
Q65002, 03	MUN2213	TRANSISTOR-RESISTOR	2		C2115	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
R65004	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		C2116	ECUX1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
R65008	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		C2117	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
R65011-13	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3		C2201	ECUX1H682KBV	C. CAPACITOR CH 50V 6800P	1	
R65014	ERJ6GEY471	M. RESISTOR CH 1/10W 470	1		C2202	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
R65015-23	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	9		C2203	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1	
R65024-27	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	4		C2204	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
R65028, 29	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2		C2205	ECUX1H182KBV	C. CAPACITOR CH 50V 1800P	1	
R65030	ERJ6GEYG392	M. RESISTOR CH 1/10W 3.9K	1		C2206	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
R65031-33	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	3		C2208, 09	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
R65035-42	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	8		C2210	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
R65043-50	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	8		C2211	ECEV1CV2200	E. CAPACITOR CH 16V 22U	1	
R65051-58	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	8		C2212	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
R65064	ERJ6GEYG101	M. RESISTOR CH 1/10W 100	1		C2213, 14	ECUX1H562KBV	C. CAPACITOR CH 50V 5600P	2	
R65065	ERJ6RBD153	M. RESISTOR CH 1/10W 15K	1		C2215, 16	ECUX1H333KBN	C. CAPACITOR CH 50V 0.033U	2	
R65066	ERJ6RBD392	M. RESISTOR CH 1/10W 3.9K	1		C2217	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
R65067	ERJ6RBD683	M. RESISTOR CH 1/10W 68K	1		C2218, 19	ECUX1H010CCV	C. CAPACITOR CH 50V 1P	2	
R65069, 70	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	2		C2221	ECUX1C333KBV	C. CAPACITOR CH 16V 0.033U	1	
R65071-74	ERJ6GEYG223	M. RESISTOR CH 1/10W 22K	4		C2222, 23	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
R65075, 76	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	2		C2224	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
R65079-95	ERJ6GEYG683	M. RESISTOR CH 1/10W 68K	17		C2225	ECUX1H562KBV	C. CAPACITOR CH 50V 5600P	1	
R65096	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1		C2226, 27	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
R65101-08	ERJ6GEYG181	M. RESISTOR CH 1/10W 180	8		C2301	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1	
R65109-16	ERJ6GEYG332	M. RESISTOR CH 1/10W 3.3K	8		C2302, 03	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	2	
R65117	ERJ6GEYG181	M. RESISTOR CH 1/10W 180	1		C2304	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1	
SW65101-04	EV00S307K	SWITCH	6		C2305, 06	ECUX1H470JCV	C. CAPACITOR CH 50V 47P	2	
SW65107	EV011409K	SWITCH	1		C2307	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1	
SW65108-11	EV00S307K	SWITCH	4		C2308	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1	
SW65112, 13	VSS0249	SWITCH	2		C2309	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1	
SW65114	EV00S307K	SWITCH	1		C2310	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1	
VR65001, 02	EVUFMAEA3B24	V. RESISTOR 20K	2		C2311	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1	
VR65003	EVJYMOF15C23	V. RESISTOR 2K	1		C2312	ECUX1H471JCV	C. CAPACITOR CH 50V 470P	1	
X65001	VSX0140	CRYSTAL OSCILLATOR	1		C2313	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
		MISCELLANEOUS			C2314	VCK0152	C. CAPACITOR	1	
	VJF1296	LCD HOLDER	1		C2315-20	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	6	
	VG00458	LCD SPACER	9		C2402	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
	VZT0045	CUSHION	1		C2406	ECUX1H562KBV	C. CAPACITOR CH 50V 5600P	1	
					C2408, 09	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2	
■ E13	VEP80856A	CARRIGE P. C. BOARD	1 (RTL)		C2411	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
P1	VJP1249T	CONNECTOR (MALE) 9P	1		C2413	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
P2	VJS2889A012	CONNECTOR (FEMALE)	1		C2414-16	ECUX1H472KBV	C. CAPACITOR CH 50V 4700P	3	
P3	VJS2889A016	CONNECTOR (FEMALE)	1		C2417, 18	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	2	
R1-R7	ERDS2TJ221	C. RESISTOR 1/4W 220	7		C2419	ECEV1HV2R20	E. CAPACITOR CH 50V 2.2U	1	
					C2420, 21	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	2	
					C2422	ECEV1HV2R20	E. CAPACITOR CH 50V 2.2U	1	
					C2423, 24	ECUM1E473KBN	C. CAPACITOR CH 25V 0.047U	2	
					C2425	ECUM1C474KBM	C. CAPACITOR CH 16V 0.47U	1	
					C2426	ECEV1HV2R20	E. CAPACITOR CH 50V 2.2U	1	
					C2427	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1	
					C2432	ECUX1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
					C2434	ECUX1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
					C2437	ECUX1H333KBN	C. CAPACITOR CH 50V 0.033U	1	
					C2438	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
					C2444	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
					C2445	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1	
					C2450	ECUX1H562KBV	C. CAPACITOR CH 50V 5600P	1	
					C2451	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1	
					C2455-57	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	3	
					C2458-60	ECEV1HV2R20	E. CAPACITOR CH 50V 2.2U	3	
					C2461	ECUM1C474KBM	C. CAPACITOR CH 16V 0.47U	1	
					C2462	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1	
					C2463, 64	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	2	
					C2465-67	ECUX1H472KBV	C. CAPACITOR CH 50V 4700P	3	
■ E14	VEP02545J	SERVO P. C. BOARD	1 (RTL)		C2468-70	ECUX1H333KBN	C. CAPACITOR CH 50V 0.033U	3	
					C2471-76	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	6	
					C2477, 78	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	2	
					C2479	VCK0152	C. CAPACITOR	1	
					C2480	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1	
					C2501-06	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	6	
					C2507	ECEV0JV3300	E. CAPACITOR CH 6.3V 33U	1	
					C2508-12	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	5	
					C2513, 14	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C2515-19	VCE0180	E. CAPACITOR	5		C64207	ECEV1EV4R70	E. CAPACITOR CH 25V 4.7U	1	
C2520-25	ECEV1CV1000	E. CAPACITOR CH 16V 10U	6		C64208	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1	
C2526-31	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	6		C64209	ECEV1CV4700	E. CAPACITOR CH 16V 47U	1	
C2532-37	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	6						
C2539, 40	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	2		D2001, 02	MA704	DIODE	2	
C2541	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D2301, 02	MA143	DIODE	2	
C2542	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1		D2401-06	MA738	DIODE	6	
C2543	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D2450-55	MA738	DIODE	6	
C2601	VCE0180	E. CAPACITOR	1		D2501, 02	MA736	DIODE	2	
C2603	VCE0180	E. CAPACITOR	1		D2503, 04	MA728	DIODE	2	
C2606	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D2601	MA728	DIODE	1	
C2607	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D2602	MA736	DIODE	1	
C2608	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D2603	MA728	DIODE	1	
C2609	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D2604	MA736	DIODE	1	
C2610	VCC0037F432	C. CAPACITOR 432P	1		D2701-03	MA143	DIODE	3	
C2611	VCE0180	E. CAPACITOR	1		D2901-04	MA143	DIODE	4	
C2613	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D2906, 07	MA736	DIODE	2	
C2614	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D64001	MA8051-H	DIODE	1	
C2615	VCE0180	E. CAPACITOR	1		D64002	21D004	DIODE	1	
C2617	VCE0180	E. CAPACITOR	1		D64003-08	MA738	DIODE	6	
C2619	VCK0152	C. CAPACITOR	1		D64009, 10	NS003A04	DIODE	2	
C2620	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D64011, 12	MA738	DIODE	2	
C2621	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1		D64013, 14	NS003A04	DIODE	2	
C2622	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D64015-22	MA738	DIODE	8	
C2707	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1		D64023-26	MA142WA	DIODE	4	
C2708	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		D64201	MA3100-L	DIODE	1	
C2709	ECUX1H122KBV	C. CAPACITOR CH 50V 1200P	1		D64203	MA3068-M	DIODE	1	
C2710	ECUX1H101JCV	C. CAPACITOR CH 50V 100P	1		D64204	MA3056-M	DIODE	1	
C2711	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		D64205	MA3051-M	DIODE	1	
C2712, 13	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2		D64209	MA3056-H	DIODE	1	
C2714	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		D64210	MA3100-L	DIODE	1	
C2715	ECUX1E273KBV	C. CAPACITOR CH 25V 0.027U	1		D64214	MA3075-M	DIODE	1	
C2716	ECUX1H332KBV	C. CAPACITOR CH 50V 3300P	1		D64215	MA738	DIODE	1	
C2717	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		D64216	MA142WK	DIODE	1	
C2719	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1						
C2721-24	ECEV1AV3300	E. CAPACITOR CH 10V 33U	4		FL2001	VLF0941C223	FILTER	1	
C2725, 26	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2						
C2727	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1		IC2101	VS13122	IC	1	
C2728, 29	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	2		IC2102	TC7SHU04FU	IC	1	
C2801-04	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	4		IC2103	S80730ANDT	IC	1	
C2903	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC2104, 05	TC4W53FU	IC	2	
C2904	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC2106	TC7SHU04FU	IC	1	
C2905	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		IC2201	VS13121	IC	1	
C2906	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC2202	SC371025AVFU	IC	1	
C2907	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		IC2203	TA75W01FU	IC	1	
C2908	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC2205	TC7W74FU	IC	1	
C2909	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1		IC2206	TA75W01FU	IC	1	
C2910	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC2207	TVHC574FT	IC	1	
C2911	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1		IC2209-11	TC7SHU04FU	IC	3	
C2912	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		IC2301	TA75W558FU	IC	1	
C2913	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	1		IC2302	TA75W393FU	IC	1	
C2914	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1		IC2303	TA75W558FU	IC	1	
C2915	ECUX1H102JCV	C. CAPACITOR CH 50V 1000P	1		IC2304	TA75W393FU	IC	1	
C2918	ECUX1H221JCV	C. CAPACITOR CH 50V 220P	1		IC2305	TA75W558FU	IC	1	
C2919	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC2306	TC7W74FU	IC	1	
C2921	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC2401, 02	AN3834S	IC	2	
C2923-25	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3		IC2404	TA75W558FU	IC	1	
C2926	ECEV1HV3R30	E. CAPACITOR CH 50V 3.3U	1		IC2405	TA75W01FU	IC	1	
C2927	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC2406	TA75W393FU	IC	1	
C2928	VCK0152	C. CAPACITOR	1		IC2407	XC62DN5002P	IC	1	
C2932	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		IC2502	TA75W393FU	IC	1	
C2934	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC2503	TB6519F	IC	1	
C2935	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1		IC2506	TB6519F	IC	1	
C2937	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		IC2601	TL1451CNS	IC	1	
C2942	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC2602	XC62AP5002P	IC	1	
C2947-49	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	3		IC2701	UPC4556G2	IC	1	
C2951	ECEV1CV2200	E. CAPACITOR CH 16V 22U	1		IC2702	TC4W53FU	IC	1	
C2952-55	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	4		IC2703	NJM4565MD	IC	1	
C64001	ECEV1CV1000	E. CAPACITOR CH 16V 10U	1		IC2704	TC7W04F	IC	1	
C64002	ECUX1E104KBN	C. CAPACITOR CH 25V 0.1U	1		IC2705	TC7W74FU	IC	1	
C64003	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC2801	T160G11-1258	IC	1	
C64201, 02	ECEV1CV4700	E. CAPACITOR CH 16V 47U	2		IC2901	TA75W558FU	IC	1	
C64203	ECEV0JV3300	E. CAPACITOR CH6.3V 33U	1		IC2902	TA75W393FU	IC	1	
C64204, 05	ECUX1C105KBM	C. CAPACITOR CH 16V 1U	2		IC2904	TA75W558FU	IC	1	
C64206	ECUX1H103KBV	C. CAPACITOR CH 50V 0.01U	1		IC2905	TA75W393FU	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC2906, 07	UPC4558G2	IC	2		064017	2SB1073-R	TRANSISTOR	1	
IC2908	TA75W01FU	IC	1		064018	2SD1624-S	TRANSISTOR	1	
IC64001	NJM2904M	IC	1		064019, 20	2SD1819A-R	TRANSISTOR	2	
IC64201, 02	M54649L	IC	2		064021	2SB1219A-R	TRANSISTOR	1	
L2001	VL00319K101	COIL 100UH	1		064022	2SB1073-R	TRANSISTOR	1	
L2003	VL00319K100	COIL 10UH	1		064023	2SB1219A-R	TRANSISTOR	1	
L2101	VL00319K100	COIL 10UH	1		064024	2SD1819A-R	TRANSISTOR	1	
L2102	VL00319K101	COIL 100UH	1		064025	2SB1073-R	TRANSISTOR	1	
L2201-03	VL00319K100	COIL 10UH	3		064026	2SB1219A-R	TRANSISTOR	1	
L2502	VL00407120M	COIL 12UH	1		064027	2SD1624-S	TRANSISTOR	1	
L2503	VL00319K100	COIL 10UH	1		064028	2SB1073-R	TRANSISTOR	1	
L2504	VL00407151K	COIL 150UH	1		064029	2SD1624-S	TRANSISTOR	1	
L2505	VL00129	COIL 300UH	1		064030	2SD1819A-R	TRANSISTOR	1	
L2601	VL00407120M	COIL 12UH	1		064031	2SD1624-S	TRANSISTOR	1	
L2603, 04	VL00407151K	COIL 150UH	2		064032	2SB1073-R	TRANSISTOR	1	
L2701, 02	VL00319K101	COIL 100UH	2		064033	2SB1219A-R	TRANSISTOR	1	
L2801	VL00319K101	COIL 100UH	1		064034	2SD1624-S	TRANSISTOR	1	
L2901	VL00319K101	COIL 100UH	1		064035	2SD1819A-R	TRANSISTOR	1	
L64201, 02	VL00319K101	COIL 100UH	2		064201	2SD1624-S	TRANSISTOR	1	
P2001, 02	VJP3949C070H	CONNECTOR (MALE)	2		064202	2SB1073-R	TRANSISTOR	1	
P2003	VJP1231T	CONNECTOR (MALE) 4P	1		064203	2SD1819A-R	TRANSISTOR	1	
P2004	VJP1230T	CONNECTOR (MALE) 3P	1		QR2401, 02	UN5213	TRANSISTOR-RESISTOR	2	
P2011	VJP3172D002	CONNECTOR (MALE)	1		QR2450, 51	UN5213	TRANSISTOR-RESISTOR	2	
P2012	VJP3172D005	CONNECTOR (MALE)	1		QR2501, 02	UN5213	TRANSISTOR-RESISTOR	2	
P2013	VJP3172D002	CONNECTOR (MALE)	1		QR2703, 04	UN5213	TRANSISTOR-RESISTOR	2	
P2014	VJP3172D003	CONNECTOR (MALE)	1		QR64001	UN5114	TRANSISTOR-RESISTOR	1	
P2015	VJP3518B002	CONNECTOR (MALE)	1		QR64002	UN5214	TRANSISTOR-RESISTOR	1	
P2016	VJP3518B003	CONNECTOR (MALE)	1		QR64003	UN5114	TRANSISTOR-RESISTOR	1	
P2017	VJS3801B010	CONNECTOR (FEMALE)	1		QR64004-06	UN5214	TRANSISTOR-RESISTOR	3	
P2018	VJP3518B002	CONNECTOR (MALE)	1		QR64007	UN5114	TRANSISTOR-RESISTOR	1	
P2019	VJP3172D002	CONNECTOR (MALE)	1		QR64008	UN5214	TRANSISTOR-RESISTOR	1	
P2020	VJP3518B003	CONNECTOR (MALE)	1		QR64009	UN5114	TRANSISTOR-RESISTOR	1	
P2021	VJP3518B002	CONNECTOR (MALE)	1		QR64010, 11	UN5214	TRANSISTOR-RESISTOR	2	
P2022	VJP3172D004	CONNECTOR (MALE)	1		QR64012, 13	UN5114	TRANSISTOR-RESISTOR	2	
P2024	VJP3518B002	CONNECTOR (MALE)	1		QR64014	UN5214	TRANSISTOR-RESISTOR	1	
P2025	VJP1230T	CONNECTOR (MALE) 3P	1		QR64015, 16	UN5114	TRANSISTOR-RESISTOR	2	
P2026	VJP1236T	CONNECTOR (MALE) 9P	1		QR64017	UN5211	TRANSISTOR-RESISTOR	1	
P2030	VJP3172D003	CONNECTOR (MALE)	1		QR64201-03	UN5213	TRANSISTOR-RESISTOR	3	
P2032	VJP3172D004	CONNECTOR (MALE)	1		QR64204, 05	UN5211	TRANSISTOR-RESISTOR	2	
P2033	VJS3406B015	CONNECTOR (FEMALE)	1		QR64212	UN5114	TRANSISTOR-RESISTOR	1	
P2034, 35	VJS3813C017	CONNECTOR (FEMALE)	2		QR64213, 14	UN5214	TRANSISTOR-RESISTOR	2	
P2036	VJS3406B019	CONNECTOR (FEMALE)	1		R2106	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
P2037	VJP3125B002	CONNECTOR (MALE)	1		R2107	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
P2038	VJP3172D002	CONNECTOR (MALE)	1		R2108	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
Q2501, 02	2SB1073-R	TRANSISTOR	2		R2109	ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
Q2503-06	2SD1820R	TRANSISTOR	4		R2110	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
Q2507-09	2SD1119-R	TRANSISTOR	3		R2111	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
Q2510-12	2SB1073-R	TRANSISTOR	3		R2112, 13	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
Q2513-15	2SD1119-R	TRANSISTOR	3		R2114	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
Q2516-18	2SB1073-R	TRANSISTOR	3		R2115-20	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	6	
Q2601, 02	2SB1073-R	TRANSISTOR	2		R2121-24	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4	
Q2701	2SD1820R	TRANSISTOR	1		R2125	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q2702	2SB1219A-R	TRANSISTOR	1		R2126	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
Q2703	2SD1820R	TRANSISTOR	1		R2127	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
Q2704, 05	2SB1219-R	TRANSISTOR	2		R2128	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
Q2706, 07	2SD1820R	TRANSISTOR	2		R2201, 02	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
Q2708	2SB1219A-R	TRANSISTOR	1		R2203, 04	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	2	
Q2901	2SB1219A-R	TRANSISTOR	1		R2205	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
Q2901	2SB1219A-R	TRANSISTOR	1		R2206	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
064001	2SB936A-0	TRANSISTOR	1		R2207, 08	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2	
064002	2SD1819A-R	TRANSISTOR	1		R2209-12	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	4	
064003	2SB1073-R	TRANSISTOR	1		R2213, 14	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
064004	2SD1819A-R	TRANSISTOR	1		R2221, 22	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	2	
064005	2SB1219A-R	TRANSISTOR	1		R2225	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
064006	2SD1819A-R	TRANSISTOR	1		R2226	ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1	
064007	2SB1073-R	TRANSISTOR	1		R2227	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
064008	2SD1624-S	TRANSISTOR	1		R2228	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
064009	2SD1819A-R	TRANSISTOR	1		R2229	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
064010, 11	2SB1219A-R	TRANSISTOR	2		R2230	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1	
064012	2SD1819A-R	TRANSISTOR	1		R2231-34	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4	
064013	2SB1073-R	TRANSISTOR	1		R2236-41	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	6	
064014, 15	2SD1624-S	TRANSISTOR	2		R2242	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
064016	2SB1219A-R	TRANSISTOR	1		R2243	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R2245	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1		R2529	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2301	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R2530	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R2302	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1		R2531	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2303	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R2532	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R2304	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1		R2533	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R2305	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1		R2534, 35	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R2306	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		R2536	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R2307	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1		R2537, 38	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R2308	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R2539	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R2309	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		R2540	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	1	
R2310	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1		R2541	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2311	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R2542	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R2312	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1		R2543	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R2313-15	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	3		R2544	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R2316	ERJ3GEYJ564	M.RESISTOR CH 1/16W 560K	1		R2545	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2317	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R2546	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R2318	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R2601, 02	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R2319	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1		R2603	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R2320, 21	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		R2604, 05	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R2322	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1		R2606	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R2323	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R2607	ERJ8GEYJ681	M.RESISTOR CH 1/8W 680	1	
R2324	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		R2608	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R2326	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R2609	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R2327	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R2610	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R2328	ERJ3GEYJ334	M.RESISTOR CH 1/16W 330K	1		R2612	ERJ3RBD183	M.RESISTOR CH 1/16W 18K	1	
R2329	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R2614	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	1	
R2331	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1		R2615	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R2334	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1		R2618	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R2336, 37	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		R2619	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R2402	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		R2622	ERJ8GEYJ681	M.RESISTOR CH 1/8W 680	1	
R2404	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1		R2623	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R2405	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		R2624	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R2409	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1		R2625	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R2411	ERJ3RBD182	M.RESISTOR CH 1/16W 1.8K	1		R2627, 28	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2	
R2412	ERJ12YJ2R2	M.RESISTOR CH 1/2W 2.2	1		R2629, 30	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2	
R2415	ERJ12YJ2R2	M.RESISTOR CH 1/2W 2.2	1		R2701, 02	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2	
R2421	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1		R2703	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R2423	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1		R2704	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2428, 29	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	2		R2705	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R2432	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1		R2706	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2436	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1		R2711	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R2443	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1		R2712	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R2450, 51	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	2		R2713	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R2452	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1		R2714	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R2453	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1		R2715	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R2454	ERJ3RBD182	M.RESISTOR CH 1/16W 1.8K	1		R2719	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R2455, 56	ERJ12YJ2R2	M.RESISTOR CH 1/2W 2.2	2		R2720	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R2457-59	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	3		R2722	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R2460	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1		R2723	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R2461	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1		R2724	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R2462	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1		R2725	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R2463	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1		R2726	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R2465	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1		R2727	ERJ3GEYJ823	M.RESISTOR CH 1/16W 82K	1	
R2467	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1		R2728	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R2468-71	ERJ3RBD563	M.RESISTOR CH 1/16W 56K	4		R2730, 31	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	2	
R2472, 73	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	2		R2732, 33	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R2474	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1		R2734, 35	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R2476	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R2736	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R2477, 78	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2		R2801	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R2479-82	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	4		R2802	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R2501, 02	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	2		R2803, 04	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2	
R2503, 04	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2		R2806	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R2505, 06	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	2		R2808	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R2507, 08	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2		R2901, 02	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R2509, 10	ERJ8GEYJ681	M.RESISTOR CH 1/8W 680	2		R2903	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R2511	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1		R2904	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R2512	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1		R2905	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R2513, 14	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2		R2906	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R2515-20	ERJ8GEYJ180	M.RESISTOR CH 1/8W 1	6		R2907	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R2522	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1		R2908	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	
R2523, 24	ERJ3GEYJ181	M.RESISTOR CH 1/16W 180	2		R2909	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2525	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1		R2911	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R2526	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R2912	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R2527	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		R2914	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R2528	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1		R2915	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	
R2916	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1		R64069	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		
R2917	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64070	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1		
R2919	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1		R64071	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R2920	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64072	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1		
R2921	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1		R64073	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R2922, 23	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		R64074	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1		
R2924	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1		R64075	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R2925, 26	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		R64076	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1		
R2928	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64077, 78	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	2		
R2929	ERJ3GEYJ124	M.RESISTOR CH 1/16W 120K	1		R64079	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		
R2930	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1		R64080	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1		
R2931	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1		R64081	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R2932-34	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	3		R64082, 83	ERJ12YJ3R3	M.RESISTOR CH 1/2W 3.3	2		
R2935	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1		R64084	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1		
R2937	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64085	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R2942	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		R64086	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		
R2944	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1		R64087	ERJ12YJ3R3	M.RESISTOR CH 1/2W 3.3	1		
R2949	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1		R64088, 89	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	2		
R2950	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1		R64090	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R2951	ERJ3GEYJ391	M.RESISTOR CH 1/16W 390	1		R64091-93	ERJ12YJ3R3	M.RESISTOR CH 1/2W 3.3	3		
R2952	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64094	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R2959, 60	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	2		R64095	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		
R2961	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64096	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R2963	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	1		R64097-02	ERJ12YJ3R3	M.RESISTOR CH 1/2W 3.3	6		
R64001	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1		R64103	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R64002	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1		R64104	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1		
R64003	ERJ3GEYJ563	M.RESISTOR CH 1/16W 56K	1		R64105, 06	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		
R64004	ERJ6GEYG681	M.RESISTOR CH 1/10W 680	1		R64107	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		
R64005	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64201	ERJ8GEYJ222	M.RESISTOR CH 1/8W 2.2K	1		
R64006, 07	ERJ6GEYG681	M.RESISTOR CH 1/10W 680	2		R64202	ERJ6GEYG271	M.RESISTOR CH 1/10W 270	1		
R64008	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1		R64203	ERJ6GEYOR00	M.RESISTOR CH 1/10W 0	1		
R64009	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64204	ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	1		
R64010	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1		R64205	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R64011	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1		R64206	ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	1		
R64012, 13	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2		R64207	ERJ8GEYJ300	M.RESISTOR CH 1/8W 30	1		
R64014, 15	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	2		R64208	ERJ8GEYJ222	M.RESISTOR CH 1/8W 2.2K	1		
R64016, 17	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	2		R64209	ERJ6GEYG271	M.RESISTOR CH 1/10W 270	1		
R64018	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64212-14	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	3		
R64019	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		R64218, 19	ERJ3GEYOR00	M.RESISTOR CH 1/16W 0	2		
R64020	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1		R64223, 24	ERJ8GEYJ102	M.RESISTOR CH 1/8W 1K	2		
R64021	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1		R64225	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R64022	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1		R64226	ERJ8GEYOR00	M.RESISTOR CH 1/8W 0	1		
R64023	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		R64229	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		
R64024	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1		R64230	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1		
R64025, 26	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2		R64231	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		
R64027	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1		TP201-05	EYF6CU	TEST POINT	5		
R64028	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		TP301-05	EYF6CU	TEST POINT	5		
R64029, 30	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	2		TP701-04	EYF6CU	TEST POINT	4		
R64031	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1		TP2401	EYF6CU	TEST POINT	1		
R64032-34	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	3		TP2403, 04	EYF6CU	TEST POINT	2		
R64035	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		TP2451	EYF6CU	TEST POINT	1		
R64036	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		TP2453, 54	EYF6CU	TEST POINT	2		
R64037-39	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	3		TP2801	EYF6CU	TEST POINT	1		
R64040	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1		TP2903	EYF6CU	TEST POINT	1		
R64041	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1		TP2906	EYF6CU	TEST POINT	1		
R64042	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1		TPG201	EYF6CU	TEST POINT	1		
R64043, 44	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2		VR2201	EVM7JGA00B15	V.RESISTOR 100K	1		
R64045, 46	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	2		X2101	VSX0821	CRYSTAL OSCILLATOR	1		
R64047, 48	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	2		X2201	VSX0645	CRYSTAL OSCILLATOR	1		
R64049	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1				MISCELLANEOUS			
R64050	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1				VSC4607	SHIELD CASE	1	
R64051	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1				VJF1310	CONNECTOR HOLDER	2	
R64052	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1				VEE2795	VIDEO EARTH	1	
R64053	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1							
R64054, 55	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2							
R64056	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1							
R64057, 58	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	2							
R64059, 60	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	2							
R64061	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1							
R64062, 63	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	2							
R64064	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1							
R64065	ERJ3GEYG682	M.RESISTOR CH 1/16W 6.8K	1							
R64066	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1							
R64067	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1							
R64068	ERJ8GEYJ391	M.RESISTOR CH 1/8W 390	1							

AJ-D250P

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks	Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■ E16	VEK7793	MOTOR P. C. BOARD	1	(RTL)					
		MISCELLANEOUS							
	VJP1230T	3P CONNECTOR	1						
■ E17	VEK8619	LED HOLDER P. C. BOARD	1	(RTL)					
		MISCELLANEOUS							
	VMD2528	LED HOLDER	1						
	LN159. VT2	LED	1						
	VEE0F64	LED CABLE	1						
■ E18	VEK7726	REEL DRIVE SENSOR P. C. BOARD	1	(RTL)					
		MISCELLANEOUS							
	ON1004-R	PHOTO INTERRUPTER	2						
	VEE9788	REEL SENSOR CABLE	1						
	ERDS2TJ221	C. RESISTOR 1/4W 220	1						